BMW Motorrad

The Ultimate Riding Machine

Rider's Manual (US Model)

F 800 GS

Motorcycle/Retailer Data

Motorcycle data

Model

Vehicle Identification Number

Color number

First registration

Registration number

Retailer Data

Contact in Service

Ms./Mr.

Phone number

Retailer's address/phone number (company stamp)

Welcome to BMW

We congratulate you on your choice of a motorcycle from BMW and welcome you to the community of BMW riders.
Familiarize yourself with your new motorcycle so that you can ride it safely and confidently in all traffic situations.
Please read this Rider's Manual carefully before starting to use your new BMW motorcycle. It contains important information on how to operate the controls and how to make the best possible use of all your BMW's technical features.
In addition, it contains information on maintenance and care to help you maintain your motorcycle's reliability and safety, as well as its value.
If you have any questions concerning your motorcycle, your authorized BMW Motorrad retailer is always happy to provide advice and assistance.

We wish you many miles of safe and enjoyable riding

BMW Motorrad.

01 41 8 533 827

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General instructions

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Overview

Chapter 2 of this Rider's Manual will provide you with an initial overview of your motorcycle. All maintenance and repair work carried out on your vehicle will be documented in Chapter 11. Proof of the maintenance work performed is a prerequisite for generous treatment of claims. When the time comes to sell your BMW, please remember to hand over this Rider's Manual; it is an important part of the motorcycle.

Abbreviations and symbols

Indicates warnings that you must comply with for reasons of your safety and the safety of others, and to protect your motorcycle against damage.

Special information on operating and inspecting your motorcycle as well as maintenance and adjustment procedures.

◀ Indicates the end of an item of information.

• Instruction.

» Result of an activity.

Reference to a page with more detailed information.

◁ Indicates the end of accessory or equipment-dependent information.

Tightening torque.

Technical data.

OE Optional equipment
The motorcycles are assembled complete with all the BMW optional extras originally ordered.

OA Optional accessory
BMW optional accessories can be purchased and installed at your authorized BMW Motorrad retailer.

EWS Electronic immobilizer.

DWA Anti-theft alarm.

ABS Anti-Lock Brake System.

ASC Automatic Stability Control.

ESA Electronic Suspension Adjustment.

Equipment

When you ordered your BMW motorcycle, you chose various items of custom equipment. This Rider's Manual describes optional equipment (OE) offered by BMW and selected optional accessories (OA). This explains why the manual may also contain descriptions of equipment which you have not ordered. Please note, too, that your motorcycle might not be exactly as illustrated in this manual on account of country-specific differences.
If your BMW is equipped with options or accessories not described in this Rider's Manual, then this equipment is described in a separate set of instructions.

Technical data

All dimensions, weights and outputs in the Rider's Manual refer to the Deutsches Institut für Normung e. V. (DIN) and comply with its tolerance regulations. Versions for individual countries may differ.

Notice concerning current status

The high safety and quality standards of BMW motorcycles are maintained by constant development work on designs, equipment and accessories. Because of this, your motorcycle may differ from the information supplied in the Rider's Manual. In addition, BMW Motorrad cannot guarantee the total absence of errors. We hope you will appreciate that no claims can be entertained on the basis of the data, illustrations or descriptions in this manual.

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General view, left side

1 Onboard socket (➠ 76)
2 Seat lock (➠ 52)
3 Engine oil fill location and oil dipstick (➠ 91)

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General view, right side

1 Fuel filler opening (➠ 65)
2 Adjusting spring preload (➠ 48)
3 Brake-fluid reservoir, rear (➠ 95)
4 Brake-fluid reservoir, front (➠ 94)
5 Vehicle Identification Number, type plate (on steering-head bearing)
6 Coolant level indicator (behind side panel) (➠ 96)
7 Adjusting damping (➠ 49)

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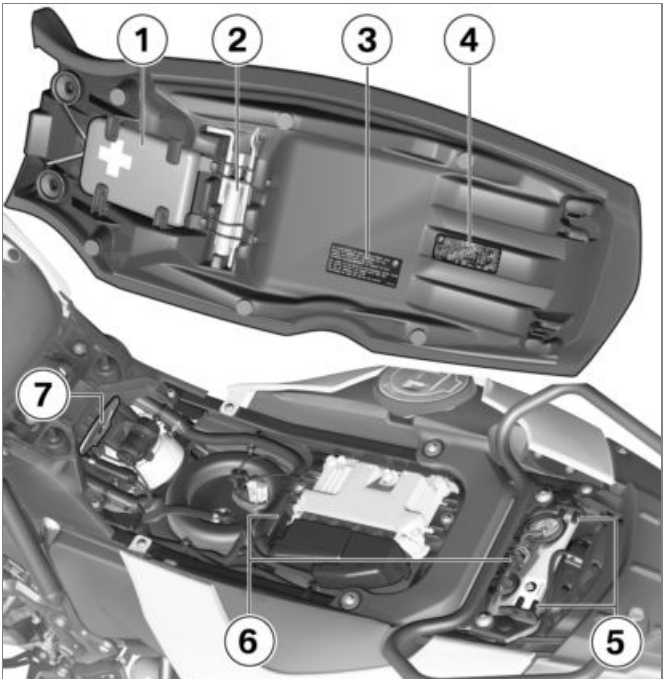
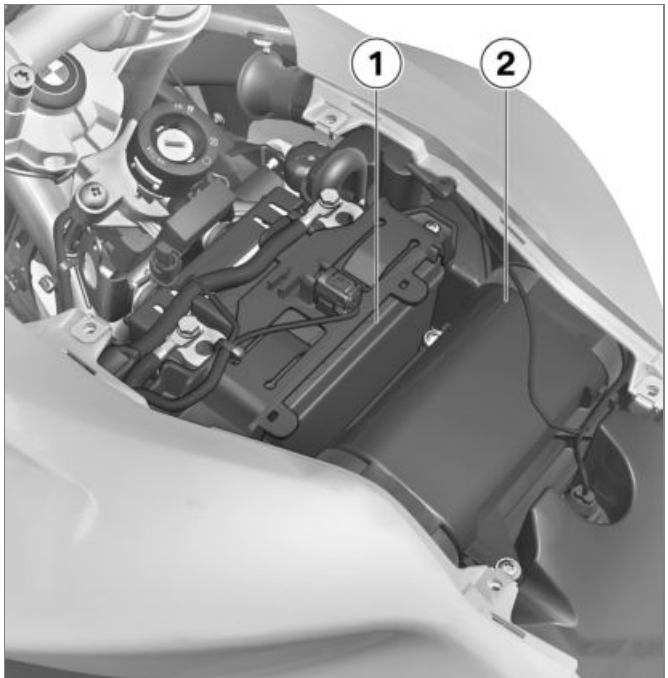
1 Storage space
– with first-aid kit OA
Storing first-aid kit
2 Standard tool kit (➠ 90)
3 Payload table
4 Tire inflation pressure table
5 Helmet holder (➠ 53)
6 Rider's Manual (in vehicle rear)
– with anti-theft alarm OE
Rider's Manual (under the control unit) (➠ 53)
7 Tools for adjusting spring preload (➠ 48)





Under fairing

1 Battery (➠ 118)
2 Air filter housing (➠ 116)

Multifunction switch, left

1 Headlight high beam and flasher (➠ 41)

2 Selecting display readings (➠ 38).
– with onboard computer OE
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3 Hazard warning flashers (➠ 42)

4 – with LED auxiliary headlight OA
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7 – with ESA OE
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8 ABS operation (➠ 44)
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1 – with heated handlebar grips[OE]
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2 Starter button (➠ 58)
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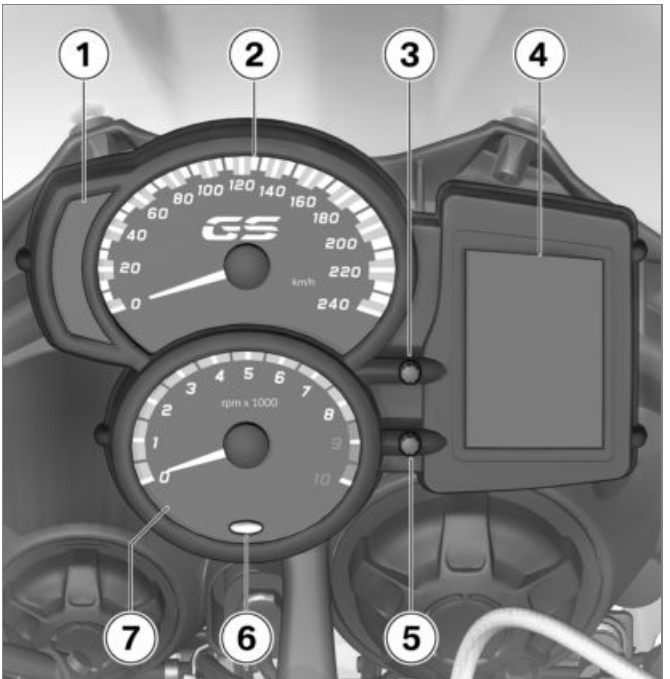

6 Ambient light sensor (for brightness adjustment of instrument lighting)
– with anti-theft alarm OE
Anti-theft alarm indicator light (see anti-theft alarm operating instructions)
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Multifunction display

1 Warning for electronic engine management (➠ 31)

2 – with heated handlebar grips OE

Display of the selected heated handlebar grip setting (➠ 43)

3 – with onboard computer OE

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4 Time (➠ 37)

5 Coolant-temperature warning indicator (➠ 30)

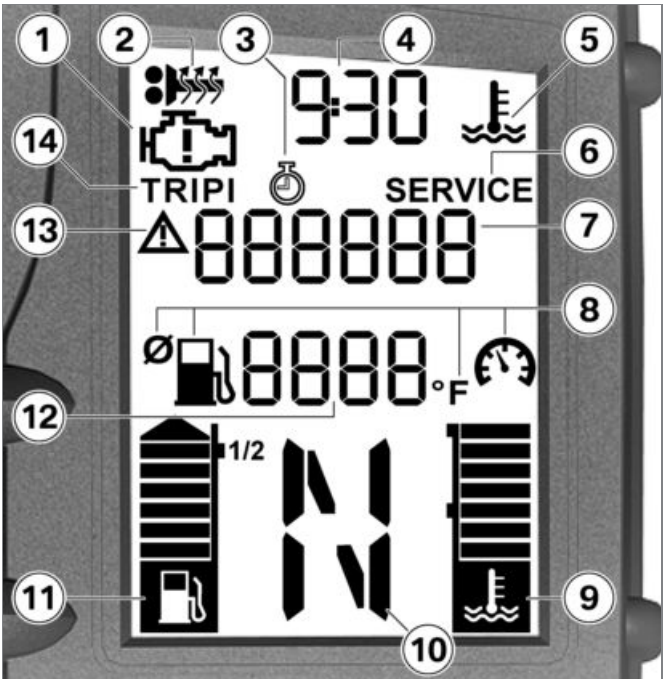
6 Service is due (➠ 26)

7 Reading display range (➠ 38)

8 – with onboard computer OE

Symbols for illustrating display reading (➠ 23)

9 Coolant temperature display



10 – With onboard computer (OE)
Gear indicator, "N" is shown for Neutral
11 Fuel level (➠ 25)
12 – With onboard computer (OE)
Reading display range (➠ 38)
13 A warning appears in the reading display range (➠ 27)
14 Trip odometer (➠ 38)

Meaning of symbols

– with onboard computer[OE]

Distance driven after reaching reserve quantity in mls (➠ 25)

Average consumption in mpg

Average speed in mph

Current consumption in mpg

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1 ABS warning lamp (➠ 32)
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3 Fuel-reserve warning lamp (➠ 25) (➠ 30)
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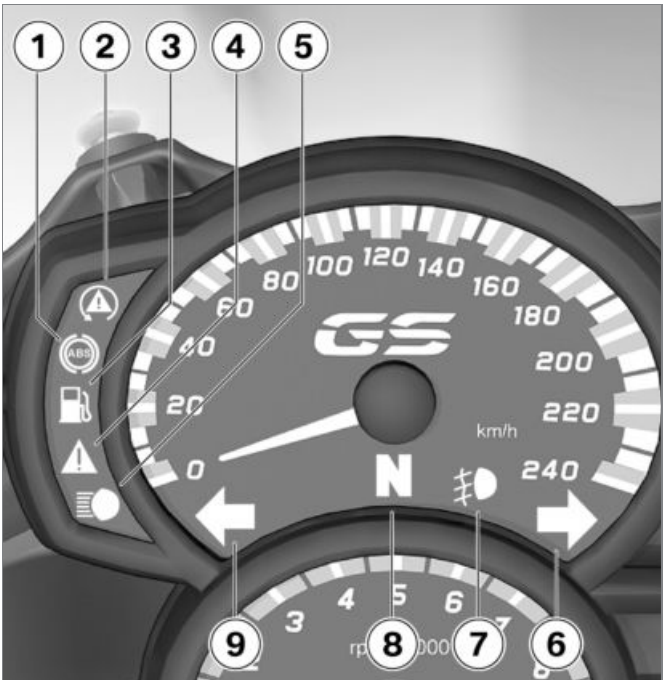
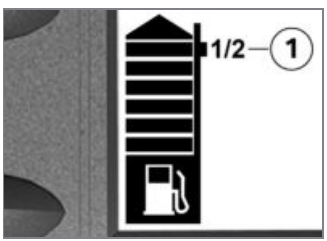
5 Headlight high beam indicator lamp
6 Indicator lamp for right turn indicator
7 – with LED auxiliary headlight OA
Telltale light for the auxiliary headlights (➠ 77)
8 Neutral indicator lamp
9 Indicator lamp for left turn indicator



The ABS symbol can be shown differently depending on the country.◀

Fuel level

Due to the complex fuel tank geometry, the fill level cannot be determined in the upper filling range. For this reason, the fuel level indicator only details the lower half of the filling range.



If the fill level indicator reaches the 1/2-mark **1**, the fuel tank is still half full. Now, the fill level is exactly displayed.

If the reserve quantity is reached, the fuel warning lamp is switched on.

Fuel reserve

The fuel level in the fuel tank, when the fuel warning lamp switches on, depends on the driving dynamics. The more the fuel is moved within the tank (due to frequently changing inclined positions, frequent braking and accelerating), the more difficult it is to determine the reserve quantity. For this reason, the reserve quantity cannot be accurately indicated.

– with onboard computer OE

After the fuel warning lamp is switched on, the distance driven since this point in time is indicated.

The distance, which can still be driven with the reserve quantity, depends on the driving style (on the consumption) and on the fuel level, when the warning lamp was switched on.

The odometer for the fuel reserve is reset, if the fuel level is greater than the reserve quantity after refueling.◁

Service display

If the time remaining until the next service will elapse within one month, the service date **1** appears briefly following the pre-ride check. The month and year are shown with two and four digits respectively separated by a colon. In this example the display means "June 2013".

If the vehicle covers high annual mileages then shorter service intervals may be required. When the odometer reading for the recalculated early service falls to within 621 miles (1000 km), the remaining miles (kilometers) **2** are counted down in 62-mile (100 km) increments and briefly displayed following the pre-ride check.

When a service date elapses without service, the universal warning lamp lights up in yellow, appearing together with the date and mileage (kilometer) display. The "Service" message is displayed continuously.

If the service display appears more than a month before the service date, the stored date must be adjusted in the instrument cluster. This situation can occur if the battery has been disconnected for a longer time.
Consult a certified workshop, preferably an authorized BMW Motorrad retailer, for setting of the date.◀

Ambient temperature

– with onboard computer OE

Engine heat can lead to spurious readings of ambient temperature when the motorcycle is stationary. When the effects of engine heat on the monitored temperature become excessive the display responds

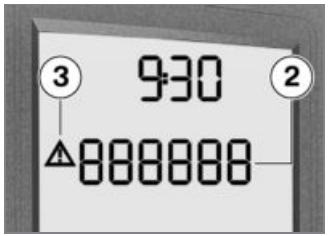
by temporarily reverting to −− as the display reading.
When ambient temperatures drop below 37°F (3°C) the temperature display responds by flashing a warning indicating possible ice formation on the road surface. The display automatically switches from any other mode to the temperature reading when the temperature drops below this threshold for the first time.

Warning indicators

Display

Warnings are displayed with the corresponding warning lamps.

Warnings for which no separate warning light is available, are indicated with the 'General' warning light **1** in conjunction with a warning or a warning symbol in the multifunction display. The universal warning lamp lights up in either red or yellow depending on the urgency of the warning.



If the display in the value area **2** shows a warning, then this is symbolized with the warning triangle **3**. These warnings can be displayed in alternation with the odometers (➠ 38).

The 'General' warning light is shown in accordance with the most urgent warning.

The following page contains a list of potential warnings.

Overview of warning indicators

Warning light	Displays	Meaning
Lights up yellow	+ "EWS" is indicated	Electronic immobilizer is active (➠ 30)
Lights up		Fuel down to reserve (➠ 30)
Lights up red	Flashes	Coolant temperature too high (➠ 30)
Lights up yellow	appears on the display	Engine in emergency-operation mode (➠ 31)
Lights up yellow	+ "LAMP" is indicated	Bulb defective (➠ 31)
	"x.x °F" flashes	Ice warning (➠ 31)
Lights up yellow	+ "dWA" is indicated	Anti-theft alarm battery drained (➠ 32)
Flashes		ABS self-diagnosis not completed (➠ 32)

Warning light	Displays	Meaning
	Lights up	ABS deactivated (➠ 32)
	Lights up	ABS error (➠ 32)
	Flashes rapidly	ASC intervention (➠ 33)
	Flashes slowly	ASC self-diagnosis not completed (➠ 33)
	Lights up	ASC deactivated (➠ 33)
	Lights up	ASC error (➠ 33)

Electronic immobilizer is active

General warning light shows yellow.

+ "EWS" is indicated.

Possible cause:

The key being used is not authorized for starting, or communication between the key and engine electronics is disrupted.

- Remove other motorcycle keys from the ignition key ring.
- Use the reserve key.
- Have the defective key replaced, preferably by an authorized BMW Motorrad retailer.

Fuel down to reserve

Fuel-reserve warning light lights up.

A fuel shortage can lead to misfiring and to the engine dying unexpectedly. Misfiring can damage the catalytic converter, and the engine dying unexpected can lead to accidents.
Do not drive to the extent that the fuel tank is completely empty.◀

Possible cause:

At the most, the fuel tank still contains the reserve fuel quantity.

Reserve fuel quantity
– min 2.9 quarts (min 2.7 l)

- Refueling (➠ 65).

Coolant temperature too high

General warning light shows red.

The temperature symbol flashes.

Continued driving with an overheated engine can result in engine damage.
Be sure to observe the measures listed below.◀

Possible cause:

Coolant level is too low.

- Checking coolant level (➠ 96).

If coolant level is too low:

- Topping up coolant (➠ 97).

Possible cause:

The coolant temperature is too high.

- If possible, continue driving in the part-load range to cool down the engine.
- In traffic jams, switch off the engine, but keep the ignition switched on so that the radiator fan continues to operate.
- Should the coolant temperature frequently be too high, have the fault rectified as quickly as possible by a specialized workshop, preferably an authorized BMW Motorrad retailer.

Engine in emergency-operation mode

General warning light shows yellow.

Engine symbol appears on the display.

The engine is in the emergency operating mode. Unusual engine response is a possibility.
Adapt your style of riding accordingly. Avoid accelerating sharply and overtaking.◀

Possible cause:

The engine control unit has diagnosed a fault. In exceptional cases, the engine stops and can no longer be started. Otherwise, the engine runs in the emergency operating mode.

- Continued driving is possible, however the accustomed engine performance may not be available.
- Have the malfunction corrected as soon as possible by a specialized workshop, preferably an authorized BMW Motorrad retailer.

Bulb defective

General warning light shows yellow.

+ "LAMP" is indicated.

A defective bulb places your safety at risk because it is easier for other users to not see the motorcycle.
Replace defective bulbs as soon as possible; always carry a complete set of spare bulbs if possible.◀

Possible cause:

Bulb defective.

- Locate defective bulb with visual check.
- Replacing low-beam and high-beam bulb (➠ 109).
- Replacing parking light bulb (➠ 110).
- Replacing brake and tail light bulb (➠ 112).
- Replacing front and rear turn indicator bulbs (➠ 112).

– with LED auxiliary headlight OA

- Replacing auxiliary driving light (➠ 114).

Ice warning

– with onboard computer OE

"x.x °F" (the ambient temperature) flashes.
Possible cause:

The ambient temperature measured at the motorcycle is lower than 37 °F (3 °C).

The ice warning does not mean that there is no risk of black ice forming at measured temperatures above 37 °F (3 °C). At low outside temperatures,

black ice must especially be expected on bridges and in shady road areas.◀

- Think well ahead when driving.

Anti-theft alarm battery drained

– with anti-theft alarm OE

General warning light shows yellow.

+ "dWA" is indicated.

This error message is only displayed for a short time following the pre-ride check.◀

Possible cause:

The anti-theft alarm battery has no capacity. The operation of the anti-theft alarm is no longer ensured with the motorcycle battery disconnected.

- Contact a specialized workshop, preferably an authorized BMW Motorrad retailer.

ABS self-diagnosis not completed

ABS warning lamp flashes.

Possible cause:

The ABS function is not available, because the self-diagnosis has not been completed. To check the wheel sensors, the motorcycle must be driven a few yards.

- Ride off slowly. It must be noted that the ABS function is not available until the self-diagnosis has been completed.

ABS deactivated

ABS warning lamp lights up.

Possible cause:

The ABS system has been deactivated by the driver.

- Switching on ABS function (➠ 44).

ABS error

ABS warning lamp lights up.

Possible cause:

The ABS control unit has detected an error. The ABS function is not available.

- Continued driving is possible. It must be noted that the ABS function is not available. Observe additional information on situations which can lead to an ABS error (➠ 71).
- Have the malfunction corrected as soon as possible by a specialized workshop, preferably an authorized BMW Motorrad retailer.

ASC intervention

– with ASC[OE]

ASC warning light flashes rapidly.

The ASC has detected instability at the rear wheel and has reduced the torque. The warning light flashes longer than the ASC intervention lasts. This feature continues to furnish the rider with optical feedback confirming that the system has initiated active closed-loop intervention even after the critical situation has passed.

ASC self-diagnosis not completed

– with ASC[OE]

ASC warning light flashes slowly.

Possible cause:

The self-diagnosis was not completed; the ASC function is not available. So that the ASC self-diagnosis can be completed, the engine must be running and the motorcycle must be moved at a speed of at least 3.1 mph (5 km/h).

- Ride off slowly. It must be noted that the ASC function is not available until the self-diagnosis has been completed.

ASC deactivated

– with ASC[OE]

ASC warning light lights up.

Possible cause:

The ASC system has been deactivated by the driver.

- Switch on ASC.

ASC error

– with ASC[OE]

ASC warning light lights up.

Possible cause:

The ASC control unit has detected an error. The ASC function is not available.

- It remains possible to continue riding. Please be aware that ASC functionality is no longer available. Observe additional information on situations which can lead to an ASC error (➡ 72).
- Have the malfunction corrected as soon as possible at a specialist service facility, preferably an authorized BMW Motorrad retailer.

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Steering and ignition lock

Keys

Two main keys and one emergency key are provided with the vehicle. The emergency key features a light, compact design, allowing it to be carried in a wallet, etc. This key is intended for use when no main key is immediately available, and is not suitable for continuous use.

Should you lose your keys please refer to the information regarding the electronic immobilizer (EWS) (➠ 37).

The steering and ignition lock, tank lock and seat lock are operated with the same key.

– with case OA
– with Topcase OA

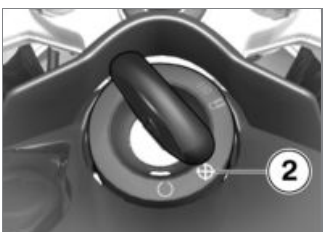
The cases and the Topcase can also be ordered with locks for the same key on request. Please contact a specialist service facility for this purpose, preferably an authorized BMW Motorrad retailer.◁

Switching on ignition

- Turn key to position **1**.
» Parking lights and all function circuits switched on.
» Engine can be started.
» Pre-ride check is performed. (➠ 59)
» ABS self-diagnosis in progress. (➠ 60)

– with ASC OE
» ABS self-diagnosis in progress. (➠ 60)

Switching off ignition

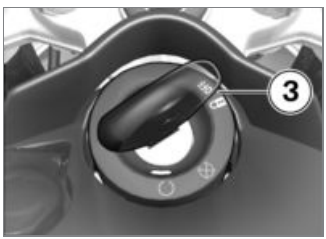


- Turn key to position **2**.
» Light switched off.
» Handlebars not locked.
» Key can be removed.
» Electrically powered accessories remain operational for a limited period of time.

» Battery can be recharged via onboard socket.

Locking handlebars

- Turn handlebars to left.



- Turn key to position **3** while moving handlebars slightly.

» Ignition, lights and all electrical circuits switched off.
» Handlebars locked.
» Key can now be removed.

EWS Electronic immobilizer

The motorcycle's electronic circuitry monitors the data stored in the ignition key through a ring antenna incorporated in the steering and ignition lock. The engine management system does not enable engine starting until this key has been recognized as "authorized" for your motorcycle.

A spare key attached to the same ring as the ignition key used to start the engine could "irritate" the electronics, in which case the enabling signal for starting is not issued. The EWS warning is shown in the multifunction display.
Always store the spare key separately from the ignition key.◀

If you lose a vehicle key, you can have it disabled by your BMW Motorrad partner. When having a key disabled you should also bring all of the motorcycle's remaining vehicle keys with you.
The engine can no longer be started using a disabled key; however, a disabled key can be enabled again.
Replacement and spare keys are only available through an authorized BMW Motorrad retailer.
The keys are part of an integrated security system, so the retailer is under an obligation to check the legitimacy of all applications for replacement/extra keys.

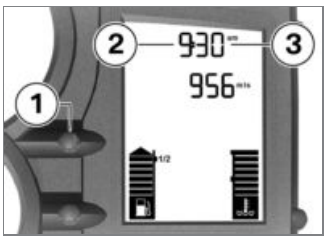
Clock

Setting clock

Attempting to set the clock while riding the motorcycle can lead to accidents.

Adjust the clock only when the motorcycle is stationary.◀

- Switch on ignition.



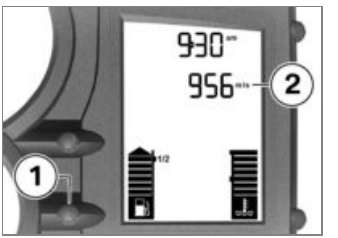
- Press and hold button **1** until hours **2** flash.
- Press button repeatedly until desired hours are shown.
- Press and hold button until minutes **3** flash.
- Press button repeatedly until desired minutes are shown.
- Press and hold button until minutes no longer flash.

» Setting is completed.

Display

Selecting display readings

- Switch on ignition.

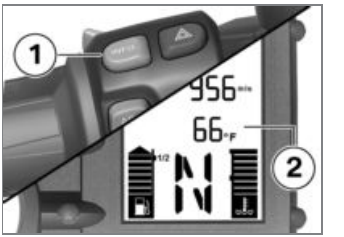


- Press button **1** to select the display in value area **2**.

The following values can be displayed:

– Total kilometers (in illustration)
– Tripmeter 1 (Trip I)
– Tripmeter 2 (Trip II)
– Warnings if necessary

– with onboard computer[OE]



- Press button **1** to select the display in value area **2**.

The following values can be displayed:

– Ambient temperature (°F)
– Average speed in mph
– Average consumption in mpg
– Current consumption in mph

Distance driven since reaching reserve quantity in mls◁

Resetting tripmeter

- Switch on ignition.
- Select desired trip odometer.

- Press and hold button **1** until trip odometer has been reset.

Resetting average data

– with onboard computer[OE]

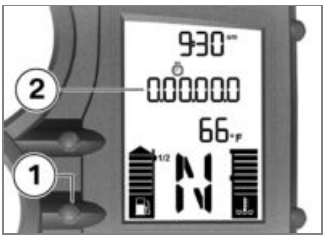
- Switch on ignition.
- Select average fuel consumption or average speed.

- Press and hold button **1** until displayed value has been reset.

Stopwatch

– with onboard computer[OE]

Stopwatch

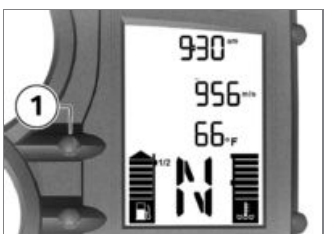


As an alternative to the odometer, the stopwatch **2** can be displayed. The display consists of hours, minutes, seconds and tenths of a second separated by dots.

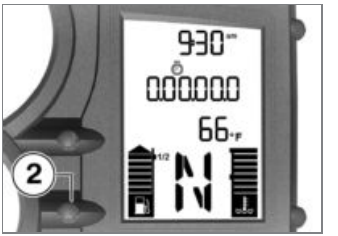
In enable improved operation of the stopwatch while driving (as a lap timer), the functions of the button **1** and the functions of the INFO button on the handlebar can be interchanged. The stopwatch and the odometer are then operated with the INFO button;

the onboard computer must be operated with the button **1**. The stopwatch continues to run in the background when the display is temporarily switched over to the odometer. The stopwatch also continues to run when the ignition is temporarily switched off.

Operating stopwatch

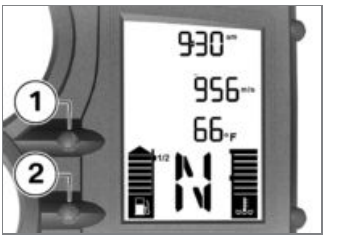


- If necessary, switch over from odometer to stopwatch with button **1**.



- With stopwatch stopped, press button **2** to start stopwatch.
- With stopwatch running, press button **2** to stop stopwatch.
- Press and hold button **2** to reset stopwatch.

Interchanging button functions



- Press and hold button **1** and button **2** simultaneously until display changes.

» FLASH (engine speed warning indicator) and ON or OFF are shown.

- Press button **2**.

» LAP (Lap-Timer) and ON or OFF are shown.

- Press button **1** repeatedly until desired state is shown.

» ON: Operation of stopwatch with INFO button on handlebar fitting.

» OFF: operation of stopwatch with button **2** in instrument cluster.
- To save the setting made, press and hold button **1** and button **2** simultaneously until the display changes.

Lights

Parking lights

The parking lights switch on automatically when the ignition is switched on.

The parking lights are a strain on the battery. Do not leave the ignition switched on longer than absolutely necessary.◀

Headlight low beam

The low-beam headlight is automatically switched on under the following conditions:

– If the engine was started.
– If the vehicle is pushed while the ignition is switched on.

With the engine switched off, you can switch on the lights by switching on the high-beam headlight with the ignition switched on or by operating the headlight flasher.◀

Headlight high beam and flasher

- Press switch **1** toward front to switch on high beams.
- Pull switch **1** rearward to operate headlight flasher.

Parking light

- Switch off ignition.

- Immediately after switching off the ignition push the button **1** to the left and maintain pressure until the parking lights come on.
- Switch ignition on and then off again to switch off parking lights.

Turn indicators

Operating turn indicator

- Switch on ignition.

After driving for approx. ten seconds or after covering a distance of approx. 980 ft (300 m), the turn indicators are automatically switched off.◀

- Press button **1** toward left to switch on left-hand turn indicator.
- Press button **1** toward right to switch on right-hand turn indicator.
- Press button **1** into center position to switch off turn indicators.

Hazard warning flashers

Operating hazard warning flashers

- Switch on ignition.

The hazard warning flashers place a strain on the battery. Do not use the hazard warning flashers for longer than absolutely necessary.◀

If a turn indicator button is pressed with the ignition switched on, the flashing function replaces the emergency flashing function as long as the button is pressed. If the turn indicator button is released, the emergency flasher function becomes active again.◀

- Press button **1** to switch on hazard warning flashers.

» Ignition can be switched off.

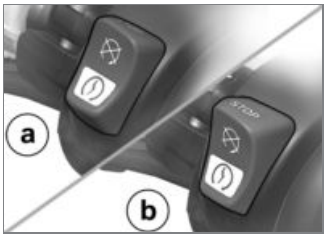
- Press button **1** again to switch off hazard warning flashers.

Emergency-off switch (kill switch)

1 Emergency-off switch (kill switch)

Operating the emergency ON/OFF switch when riding can cause the rear wheel to lock and thus cause a fall.
Do not operate the emergency ON/OFF switch when riding.◀

The engine can be switched off easily and quickly using the emergency kill switch.



a Engine switched off
b Operating position

Heated handlebar grips

– with heated handlebar grips OE

Operating heated handlebar grips

• Start engine.

The heated hand grips option can only be activated when the engine is running.◀

The increase in power consumption caused by the heated hand grips can drain the battery if you are riding at low engine speeds. If the battery is inadequately charged, the heated hand grips are switched off to ensure starting capability.◀

• Press button **1** repeatedly until desired heating level is shown.

The handlebar grips can be heated at two different levels. The second level **2** is used for fast heat-up of the grips; then the switch should be switched back to the first level.

50 % heating output

100 % heating output

» If no further changes are made the selected heating level is adopted as the setting.

BMW Motorrad ABS

Switching off ABS function

- Stop motorcycle or switch on ignition with motorcycle stationary.

- Press and hold button **1** until ABS warning lamp's display changes.

ABS warning lamp lights up.

– with ASC OE

» First the ASC symbol changes its display behavior. Press and hold button **1** until ABS warning light reacts. In this case, the ASC setting does not change.

- Release button **1** within two seconds.

ABS warning lamp remains on.

» ABS function is switched off.

Switching on ABS function

- Press and hold button **1** until ABS warning lamp's display changes.

ABS warning light goes out; if self-diagnosis has not been completed, it begins to flash.

- Release button **1** within two seconds.

ABS warning lamp remains off or continues to flash.

» ABS function is switched on.

- As an alternative, the ignition can also be switched off and then on again.

If the ABS light continues to light up after switching the ignition off and then on again, an ABS fault has occurred.◀

BMW Motorrad ASC

– with ASC OE

Deactivating ASC function

- Switch on ignition.

The ASC function can also be deactivated while driving.◀

- Press the **1** button and continue to hold it down until the status indicated by the ASC warning lamp changes.

ASC warning light lights up.

- Release button **1** within two seconds.

ASC warning lamp continues to light up.

» ASC function is deactivated.

Activating ASC function

- Press the **1** button and continue to hold it down until the status indicated by the ASC warning lamp changes.

ASC warning lamp goes out; if self-diagnosis has not been completed, it begins to flash.

- Release button **1** within two seconds.

ASC warning light remains off or continues to flash.

» ASC function is activated.

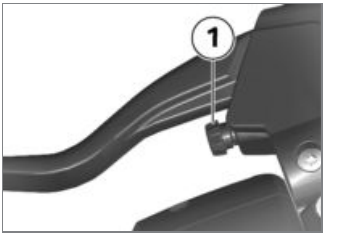
- As an alternative, the ignition can also be switched off and then on again.

If the ASC warning light lights up after switching the ignition off and on and then continued driving over 3 mph (5 km/h), an ASC error has occurred.◀

Clutch

Adjusting clutch lever

Adjusting the clutch lever while driving can lead to accidents.
Only adjust the clutch lever when the motorcycle is stationary.◀



- Turn adjusting screw **1** clockwise to increase distance between clutch lever and handlebar grip.
- Turn adjusting screw **1** counterclockwise to decrease distance between clutch lever and handlebar grip.

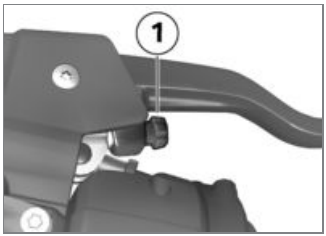
The adjusting screw can be turned more easily if you press the clutch lever forward when doing so.◀

Brakes

Adjusting handbrake lever

Changing the position of the brake-fluid reservoir can allow air to penetrate the brake system.
Do not reposition the handlebar controls on the handlebars or the handlebars in their mounts.◀

Adjusting the handbrake lever while driving can lead to accidents.
Only adjust the handbrake lever when the motorcycle is stationary.◀



- Turn adjusting screw **1** clockwise to increase distance between brake lever and handlebar grip.
- Turn adjusting screw **1** counterclockwise to decrease distance between brake lever and handlebar grip.

The adjusting screw can be turned more easily if you press the handbrake lever forward when doing so.◀

Mirrors

Adjusting mirrors

- Move mirror into desired position by twisting.

Adjust mirror arm

- Slide protective cap **1** up over screw connection on mirror arm.
- Loosen the nut **2**.
- Turn mirror arm into desired position.
- Tighten the nut to the specified torque while holding the mirror arm to ensure that it does not move out of position.

Locknut (mirror) on clamping piece
– 15 lb/ft (20 Nm)

- Slide protective cap over threaded fastener.

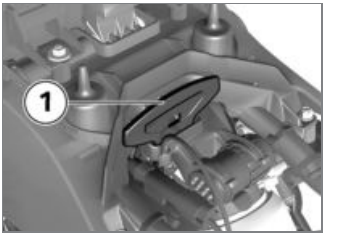
Spring preload

Setting

It is essential to set the spring preload of the rear suspension to suit the load carried by the motorcycle. Increase spring preload when the motorcycle is heavily loaded and reduce spring preload accordingly when the motorcycle is lightly loaded.

Adjusting spring preload at rear wheel

- Remove seat (➠ 52).



- Remove toolkit **1**.

⚠ Your motorcycle's handling will suffer if you do not match the spring-preload and damping-characteristic settings.

Adjust the damping characteristic to suit the spring preload.◀

- To increase spring preload, turn handwheel **2** clockwise using toolkit.
- To decrease spring preload, turn handwheel **2** counterclockwise using toolkit.

Basic setting of spring preload, rear
– Turn adjusting wheel counterclockwise as far as possible (One-up without load)
– Turn the adjusting wheel as far as possible counterclockwise, then 12 turns clockwise. (One-up with load)
– Turn adjusting wheel clockwise as far as possible (Driver with passenger and load 187 lbs (85 kg))

- Remount toolkit.
- Installing seat (➠ 53).

Damping

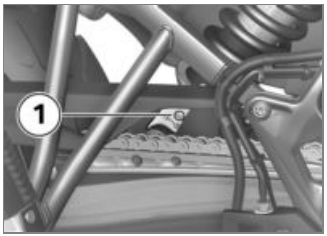
Setting

The damping must be adjusted to the road conditions and the spring preload.

– A rough road surface requires softer damping than a smooth road surface.
– An increase in spring preload requires firmer damping, a reduction in spring preload requires softer damping.

Adjusting damping on rear wheel

• Make sure ground is level and firm and park motorcycle.



• Adjust damping via adjusting screw **1**.

• To increase absorption, turn adjusting screw **1** in arrow direction H.

• To reduce absorption, turn adjusting screw **1** in arrow direction S.

Basic setting of rear wheel rear-wheel damping
– without ESA OE
– Turn adjusting screw as far as possible clockwise, then turn back 1.5 turns (One-up without load)
– Turn adjusting screw as far as possible clockwise, then turn back 1.5 turns (One-up with load)
– Turn adjusting screw as far as possible clockwise, then turn back 1 turn (Driver with passenger and load)◁

ESA Electronic Suspension Adjustment

– with ESA OE

Adjustment options

You can use the ESA Electronic Suspension Adjustment feature to adapt damping on the rear wheel to the road surface. Three damping settings are available.

Calling up settings

• Switch on ignition.

• Press button **1** to display current adjustment.

The adjusted damping is shown in the multifunction display, in area **1**. The displays provide the following information:

– COMF comfortable damping
– NORM normal damping
– SPORt sporty damping
» The display is automatically hidden again after a short time.

Adjusting the suspension

• Switch on ignition.

• Press button **1** to display current adjustment.

In order to adjust different damping:

• Press button **1** repeatedly until desired setting is displayed.

The damping can be adjusted while the motorcycle is being ridden.◀

» If button **1** is not pressed for a longer time, damping is set as indicated.
» The ESA display disappears once the adjustment procedure has been completed.

Tires

Checking tire pressure

Incorrect tire inflation pressure results in poorer handling characteristics of the motorcycle and reduces the life of the tires.
Ensure proper tire inflation pressure.◀

At high road speeds, tire valves installed perpendicular to the wheel rim have a tendency to open as a result of centrifugal force.
To avoid a sudden loss of tire inflation pressure, use valve caps with a rubber sealing ring for valves installed vertically to the wheel rim and tighten firmly.◀

- Make sure ground is level and firm and park motorcycle.
- Check tire pressures against data below.

Tire pressure, front
– 31.9 psi (2.2 bar) (Single rider, with cold tires)
– 34.8 psi (2.4 bar) (Driver with passenger and/or load, with cold tire)

Tire pressure, rear
– 34.8 psi (2.4 bar) (Single rider, with cold tires)
– 40.6 psi (2.8 bar) (Driver with passenger and/or load, with cold tire)

If tire pressure is too low:
- Correct tire pressure.

Headlight

Adjusting headlight for RHD/LHD traffic

If the motorcycle is ridden in a country where the opposite rule of the road applies, its asymmetric low-beam headlight will tend to dazzle oncoming traffic.
Have the headlight adjusted to the relevant conditions by a specialized workshop, preferably an authorized BMW Motorrad retailer.

Headlight range and spring preload

The headlight range generally remains constant due to the adjustment of the spring preload to the loading state.
Spring preload adjustment may only be insufficient when the mo-

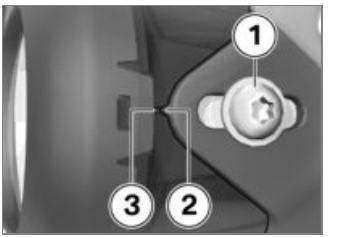
torcycle is very heavily loaded. In this case, the headlight range must be adjusted to the weight.

If you are unsure whether the headlight range is correct, consult a specialized workshop, preferably an authorized BMW Motorrad retailer.◀

Adjusting headlight range

- Loosen screws **1** on left and right.
- Adjust headlight by tilting slightly.
- Tighten screws **1** on left and right.

Basic headlight range adjustment



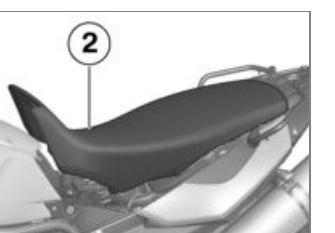
- Loosen screws **1** on left and right.
- Adjust headlight by tilting slightly so that tip **2** points to marking **3**.
- Tighten screws **1** on left and right.

Seat

Remove seat

- Make sure ground is level and firm and park motorcycle.

- Turn seat lock **1** to left with ignition key and hold while pressing seat downward at front to support movement.



- Raise seat **2** at front and release key.

- Take off seat and place on a clean surface with rubber buffers facing downward.

Installing seat

- Insert seat in brackets **3**.
- Firmly press down on seat at front.

» The seat's detent mechanism will be heard to engage.

Helmet holder

Locking helmet on motorcycle

- Remove seat (➠ 52).

- Secure helmet on helmet holder **1** on left or right using a steel cable.

If the helmet is secured on the left-hand side of the motorcycle, damage can be caused by the hot end muffler. Attach the helmet to the right-hand side of the motorcycle if possible.◀

The helmet catch can scratch the paneling. When hooking on the helmet, watch the position of the helmet lock.◀

- Guide steel cable through helmet and bracket and position as shown.
- Installing seat (➠ 53).

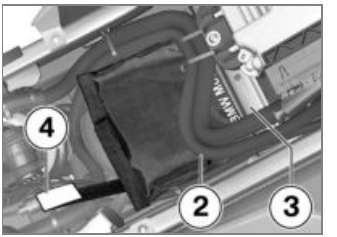
Rider's Manual (US Model)

Stowing the Owner's Manual

- Place Owner's Manual(s) into the provided bag.

- Tightly fold the open side of the bag several times and close subsequently using Velcro fastener **1**.
- Stow bag in the vehicle rear.

– with anti-theft alarm OE



- Slightly lift wires **2**.
- Slide bag backwards under the wires and the rear frame strut **3**, until the rolled-up edge of the bag is under the rear frame strut.
- Remove protective foil **4** and attach the piece of Velcro to ensure that the bag cannot slip further to the back.◁

Riding

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Parking your motorcycle 64
Refueling 65
Securing motorcycle for transport 66

Safety instructions

Rider's equipment

Do not ride without the correct clothing. Always wear:
– Helmet
– Rider's suit
– Gloves
– Boots

This applies even to short journeys, and to every season of the year. Your authorized BMW Motorrad retailer will be happy to advise you and has the correct clothing for every purpose.

Reduced clearance in inclined position

– with lowering[OE]

Motorcycles with lowered running gear have a reduced clearance in inclined position and to the ground compared to motorcycles with standard running gear (see the chapter "Technical Data").

Danger of accident due to the motorcycle contacting the ground unexpectedly early. Observe the reduced ground clearance of lowered motorcycles in all positions.◀

Test the clearance of your motorcycle at an angle in safe situations. Remember to take the limited ground clearance of your motorcycle into account when driving over curbs and similar obstacles.

Lowering the motorcycle reduces the spring travel. A possible reduction in the accustomed driving comfort may result. Especially when riding with a passenger, the spring preload should be adjusted accordingly.

Correct loading

Overloading and uneven loading can diminish the riding stability of the motorcycle. Do not exceed the gross weight limit and observe the loading information.◀

- Adjust spring preload, suspension damping rate settings and tire inflation pressures for the current gross vehicle weight.

– with case[OA]

- Ensure that case volumes on left and right are equal.◁

– with case[OA]

or

– with aluminum case[OA]

- Make sure that weight is uniformly distributed between right and left.
- Pack heavy pieces of luggage to bottom and inside of cases.
- Observe maximum payload and top speed as indicated on label in case.◁

– with Topcase OA

or

– with aluminum Topcase OA

• Observe maximum payload and top speed as indicated on label in Topcase.◁

– with tank rucksack OA

• Observe maximum payload of tank rucksack and corresponding top speed.

Payload of tank rucksack
– max 11 lbs (max 5 kg)

Speed limit for driving with tank rucksack
– max 81 mph (max 130 km/h)◁

– with rear softbag OA

• Observe maximum payload of rear bag and corresponding top speed.

Payload of rear bag
– max 3 lbs (max 1.5 kg)

Speed limit for driving with rear bag
– max 81 mph (max 130 km/h)◁

Speed

If you ride at high speed, always bear in mind that various boundary conditions can adversely affect the handling of your motorcycle:

– Settings of spring-strut and shock absorber system
– Imbalanced load
– Loose clothing
– Insufficient tire inflation pressure
– Poor tire tread
– Etc.

Risk of poisoning

Exhaust fumes contain carbon monoxide, which is colorless and odorless but highly toxic.

Inhaling exhaust fumes therefore represents a health hazard and can even cause loss of consciousness with fatal consequences.
Do not inhale exhaust fumes.
Do not run the engine in closed rooms.◀

Danger of burns

Engine and exhaust system become very hot when the motorcycle is in use. There is a risk of burn injuries by contact with hot surfaces, particularly at the silencer.
When you park the motorcycle make sure that no-one comes into contact with the engine and exhaust system.◀

Catalytic converter

If misfiring causes unburned fuel to enter the catalytic converter, there is a danger of overheating and damage.
For this reason, observe the following points:
- Do not run the fuel tank dry
- Do not run the engine with the spark-plug cap removed
- Stop the engine immediately if it misfires
- Use unleaded fuel only
- Comply with all specified maintenance intervals.

Unburned fuel will destroy the catalytic converter.
Note the points listed for protection of the catalytic converter.◀

Danger of overheating

Cooling would be inadequate if the engine were allowed to idle for a lengthy period with the motorcycle at a standstill: overheating would result. In extreme cases, the motorcycle could catch fire.
Do not allow the engine to idle unnecessarily. After starting, ride off immediately.◀

Modifications

Modifications of the motorcycle (e.g. engine management system, throttle valves, clutch) can cause damage to the affected components and failure of safety-related functions. Damage caused in this way is not covered by the warranty.
Do not make any modifications.◀

Checklist

Use the following checklist to check important functions, settings and wear limits before you ride off:

- Brakes
- Front and rear brake fluid levels
- Clutch
- Damping setting and spring preload
- Tread depth and tire inflation pressure
- Firm seating of cases and luggage

At regular intervals:
- Engine oil level (every time you refuel)
- Brake pad wear (during every third stop for refueling)
- Tension and lubrication of drive chain

Starting

Starting the engine

Transmission lubrication is only ensured when the engine is running. Insufficient lubrication can lead to transmission damage.

Do not allow the motorcycle to roll for longer periods or push it over longer distances with the engine switched off.◀

- Switch on ignition.

» Pre-ride check is performed. (➠ 59)

» ABS self-diagnosis in progress. (➠ 60)

– with ASC OE

» ABS self-diagnosis in progress. (➠ 60)

- Engage neutral, or pull back clutch lever if a gear is engaged.

▷ You cannot start the motorcycle with the side stand extended and a gear engaged. The engine will switch itself off if it is started with the transmission in neutral and then a gear is engaged before retracting the side stand.◀

- For cold starts and at low ambient temperatures: pull the lever to disengage the clutch and twist the throttle grip slightly.

- Press starter button **1**.

▷ The start attempt is automatically interrupted if battery voltage is too low. Recharge the battery before you start the engine, or use jump leads and a donor battery to start.◀

» Engine starts.

» If the engine fails to start, the troubleshooting table in the chapter "Technical Data" may provide assistance. (➠ 126)

Pre-ride check

After the ignition is switched on, the instrument cluster conducts a test of the pointer instruments and the warning and indicator lights, i.e. the "Pre-Ride-Check". The test is aborted if the engine is started before it is completed.

Phase 1

The pointers of the tachometer and speedometer are run up to the end stop. At the same time, all warning and indicator lights are switched on consecutively.

Phase 2

» The general warning light changes from yellow to red.

Phase 3

The pointers of the tachometer and speedometer are run back. At the same time, all switched-on warning and indicator lights are

switched off consecutively in the reverse order.

If a pointer has not been moved, or if one of the warning and indicator lights has not been switched on:

If it was not possible to switch on the warning lights, possible malfunctions cannot be indicated.
Watch all warning and indicator lights on the display.◀

- Have the malfunction corrected as soon as possible by a specialized workshop, preferably an authorized BMW Motorrad retailer.

ABS self-diagnosis

The readiness for operation of the BMW Motorrad ABS is checked by the self-diagnosis. The self-diagnosis routine runs automatically when you switch on the ignition. To check the wheel sensors, the motorcycle must be driven a few yards.

Phase 1

» Check on system components monitored by diagnostic system while vehicle is parked.
ABS warning lamp flashes.

Phase 2

» Checking wheel sensors while starting off.
ABS warning lamp flashes.

ABS self-diagnosis completed

» The ABS warning lamp goes out.

If an ABS error is indicated following completion of the ABS self-diagnosis routine:

- It remains possible to continue riding. It must be noted that the ABS function is not available.
- Have the malfunction corrected as soon as possible at a specialist service facility, preferably an authorized BMW Motorrad retailer.

ASC self-diagnosis

– with ASC^{OE}

The self-diagnosis routine is determining whether the BMW Motorrad Integral ASC is ready for operation. The self-diagnosis routine runs automatically when you switch on the ignition.

Phase 1

» Check on system components monitored by diagnostic system while vehicle is parked.
ASC warning light flashes slowly.

Phase 2

» Diagnostic system evaluates status of monitored system components while vehicle is underway (at least 3.1 mph [5 km/h]).

ASC warning light flashes slowly.

ASC self-diagnosis completed

» ASC warning lamp goes out.

If an ABS error is indicated following completion of the ABS self-diagnosis routine:

- It remains possible to continue riding. Please be aware that ASC functionality is no longer available.
- Have the malfunction corrected as soon as possible at a specialist service facility, preferably an authorized BMW Motorrad retailer.

Breaking in

The first 620 mls (1,000 km)

- While running in the motorcycle, vary the throttle opening and engine-speed range frequently; avoid driving for long periods at a constant speed.
- Choose curvy, slightly hilly sections of road if possible.
- Observe the engine run-in speeds.

Engine run-in speed
– <5000 min^{-1}

- Have the first inspection carried out after 300 - 750 mls (500 - 1200 km).

Brake pads

New brake pads must be run in before they achieve their optimum friction force. This initial reduction in braking efficiency can be compensated for by exerting greater pressure on the brake levers.

New brake pads can extend stopping distance by a significant margin.
Brake early.◀

Tires

New tires have a smooth surface. This must be roughened by riding in a restrained manner at various heel angles until the tires are run in. This running in procedure is essential if the tires are to achieve maximum grip.

New tires have not achieved their full adhesion yet. There is a danger of

accidents when driving at extreme angles.
Avoid extreme angles.◀

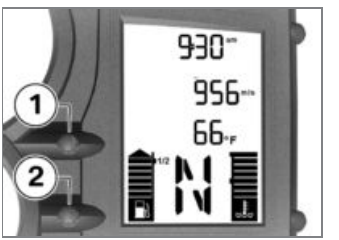
Speed

– with onboard computer[OE]

Engine speed warning

The engine speed warning signals to the driver that the red engine speed range has been reached. This signal is shown in red by the flashing of the anti-theft alarm indicator light **1**.
The signal is maintained until the transmission is upshifted or the engine speed is reduced. It can be activated or deactivated by the driver.

Activating engine speed warning



- Press and hold button **1** and button **2** simultaneously until display changes.

» FLASH (engine speed warning indicator) and ON or OFF are shown.

- Press button **1** until desired state is shown.

» ON: engine speed warning activated.

» OFF: engine speed warning deactivated.

- To save the setting made, press and hold button **1** and button **2** simultaneously until the display changes.

Offroad riding

After driving offroad

BMW Motorrad recommends that the following be observed after driving offroad:

Tire inflation pressure

A tire inflation pressure reduced for offroad driving leads to poorer handling of the motorcycle on paved roads and can result in accidents.
Ensure proper tire inflation pressure.◀

Brakes

When the motorcycle is ridden on loose surfaces or muddy roads, the brakes may fail to take effect immediately because of dirt or moisture on the disks or brake pads.
Brake early until the brakes are braked clean.◀

Driving on unpaved or dirty roads leads to increased brake pad wear.
Check the brake pad thickness more often and replace the brake pads sooner.◀

Spring preload and damping

Spring preload and damping values that have been changed for offroad use reduce handling characteristics on paved surfaces.
Before returning to on-road use, reset correct spring preload and correct damping.◀

Rims

BMW Motorrad recommends checking the rims for possible damage after riding offroad.

Air filter insert

Engine damage due to soiled air filter insert.
When driving in dusty terrain, check air filter insert for soiling at short intervals and clean or replace if necessary.◀

Use under very dusty conditions (deserts, savannas, etc.) requires the use air filter inserts specially developed for these kinds of applications.

Brakes

How do you achieve the shortest stopping distances?

The dynamic load distribution between the front and rear wheel changes during braking. The heavier you brake, the greater the weight transfer to the front wheel. Increases in the load at an individual wheel are accompanied by a rise in the effective braking force that the wheel can provide.
To achieve the shortest possible braking distance, the front brake must be applied quickly and with increasing force. This procedure provides ideal exploitation of the extra weight transfer to the front wheel. The clutch should also be disengaged at the same time. With the "forced braking" often practiced in which the brake pressure is generated

as quickly as possible and with great force, the dynamic load distribution cannot follow the increased deceleration and the braking force cannot be completely transferred to the road surface. The front wheel can lock up.
Locking up of the front wheel is prevented by the BMW Motorrad ABS.

Descending mountain passes

There is a danger of the brakes fading if you use only the rear brakes when descending mountain passes. Under extreme conditions, the brakes could overheat and suffer severe damage.
Use both front and rear brakes, and make use of the engine's braking effect as well.◀

Wet, soiled brakes

Moisture and dirt on the brake disks and the brake pads result in a decrease in the braking action. Delayed or poorer braking action must be expected in the following situations:
– When driving in the rain and through puddles.
– After washing the motorcycle.
– When driving on roads spread with salt.
– After working on the brakes due to oil or grease residues.
– When driving on soiled roads or offroad.

Poor braking action due to moisture and dirt.
Brake until brakes are dry or clean; clean if necessary.
Brake early until the full braking action is available again.◀

Parking your motorcycle

Side stand

- Switch off engine.

If the ground is soft or uneven, there is no guarantee that the motorcycle will rest firmly on the stand.
Always check that the ground under the stand is level and firm.◀

- Fold out side stand and park motorcycle.

The side stand is designed to support only the weight of the motorcycle.
Do not lean or sit on the motorcycle with the side stand extended.◀

- If the slope of the road permits, turn the handlebars to the left.

- On a grade, the motorcycle should always face uphill; select 1st gear.

Center stand

– with center stand OE

- Switch off engine.

If the ground is soft or uneven, there is no guarantee that the motorcycle will rest firmly on the stand.
Always check that the ground under the stand is level and firm.◀

Excessive movements could result in the center stand retracting, and the motorcycle would topple as a result.
Do not sit on the motorcycle while it is resting on the center stand.◀

- Fold out center stand and jack up motorcycle.

Refueling

Fuel is highly flammable. Fire at the fuel tank can result in fire and explosion.
Do not smoke. Never bring a naked flame near the fuel tank.◀

Fuel expands when exposed to heat. When the tank is overfilled, fuel can escape and get onto the road. This results in a danger of falling.
Do not overfill the fuel tank.◀

Fuel attacks plastic surfaces, making them cloudy or unattractive.
Wipe off any fuel that gets onto plastic parts immediately.◀

Leaded fuel will destroy the catalytic converter.
Use only unleaded fuel.◀

- Make sure ground is level and firm and place motorcycle on side stand.

The available fuel tank volume can only be optimally used with the vehicle standing on the side stand.◀

- Open protective cap.

- Unlock cap of fuel tank with ignition key and fold up.

- Refuel with quality listed below at most until lower edge of filler neck is reached.

When refueling after running on reserve, make sure that you top up the tank to a level above reserve, as otherwise the sensor will not be able to register the new level and the fuel warning lamp will not be switched off.◀

The "usable fuel quantity" indicated in the Technical data is the fuel quantity, which can be refueled, if the fuel tank was completely emptied, i.e., if the engine dies off due to lack of fuel.◀

Recommended fuel quality
– Super unleaded (E10) – 89 AKI (95 ROZ/RON) – 89 AKI
– with regular unleaded gasoline (RON 91)[OE]
– Regular unleaded (minor restrictions with regard to power and fuel consumption) – 87 AKI (91 ROZ/RON) – 87 AKI◁

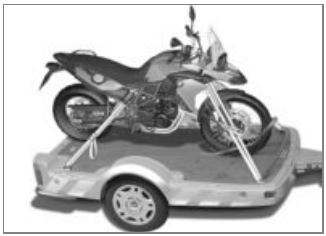
Usable fuel quantity
– Approx. 4.2 gal (Approx. 16 l)

Reserve fuel quantity
– min 2.9 quarts (min 2.7 l)

- Press fuel tank cap down firmly to close.
- Remove key and close protective cap.

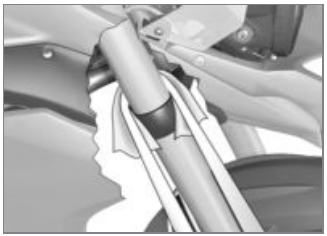
Securing motorcycle for transport

- Protect all component surfaces against which straps are routed against scratching. For example, use adhesive tape or soft cloths.



⚠ The motorcycle can tip away to the side and fall over.
Secure the motorcycle against tipping away to the side.◀

- Push motorcycle onto transport surface, and do not place on side stand or center stand.



⚠ Components can be damaged.
Do not pinch components, e.g. brake lines or wiring harnesses.◀

- Secure straps at front on both sides on lower fork bridge and tension.

- Secure straps at rear on both sides on rear frame and tension.
- Tension all straps evenly; the vehicle should be pulled down against its springs with the suspension compressed as much as possible.

Technology in detail

Brake system with BMW Motorrad ABS 70

Engine management with BMW Motorrad ASC 71

Brake system with BMW Motorrad ABS

How does ABS work?

The maximum braking force that can be transferred to the road surface is partially dependent on the friction coefficient of the road surface. Gravel, ice, snow and wet roads offer a considerably poorer friction coefficient than a dry, clean asphalt surface. The poorer the friction coefficient of the road surface is, the longer the braking distance will be.
If the maximum transferable braking force is exceeded when the driver increases the brake pressure, the wheels begin to lock and driving stability is lost, and a fall can result. Before this situation occurs, ABS intervenes and adjusts the brake pressure to the maximum transferable braking force. This enables the wheels to continue to turn and maintains driving stability regardless of the road surface condition.

What happens when rough roads are encountered?

Bumpy or rough roads can briefly lead to a loss of contact between the tires and the road surface, until the transferable braking force is reduced to zero. If braking is carried out in this situation, ABS must reduce the brake pressure to ensure driving stability when restoring contact to the road. At this point in time, the BMW MotorradABS must assume extremely low friction coefficients (gravel, ice, snow) so that the running wheels turn in every imaginable case and the driving stability is ensured. After detecting the actual conditions, the system adjusts the optimum brake pressure.

Lifting off rear wheel

However, during extremely heavy and rapid decelerations it is possible that the BMW Motorrad ABS cannot prevent the rear wheel from lifting off the ground. In these cases, the motorcycle can also flip end over end.

⚠ Heavy braking can lead to the rear wheel lifting off the ground.
When braking, bear in mind that the ABS control cannot be relied on in all circumstances to prevent the rear wheel from lifting off the ground.◀

What are the design characteristics of the BMW Motorrad ABS?

The BMW Motorrad ABS ensures driving stability on any surface within the limits of driving physics. The system is not optimized for special requirements

resulting under extreme weather conditions offroad or on the racetrack.

Special situations

To detect the tendency of the wheels to lock up, the speeds of the front and rear wheel are compared. If implausible values are detected over a longer period of time, the ABS function is deactivated for safety reasons and an ABS fault is indicated. The condition for a fault message is the completed self-diagnosis.
In addition to problems on the BMW Motorrad ABS, unusual driving conditions can also lead to a fault message.

Unusual driving conditions:

– Driving on the rear wheel (wheely) for a longer period.
– Rear wheel spinning in place with front brake pulled (burn out).
– Heating up on the main or auxiliary stand at idle or with gear engaged.
– Locked-up rear wheel for a longer period of time, e.g. when riding downhill offroad.

Should a fault message result due to one of the driving conditions described above, the ABS function can be reactivated by switching the ignition off and then on again.

How important is regular maintenance?

Any technical system is always only as good as its maintenance condition.
To ensure that the BMW Motorrad ABS is in an optimally maintained condition, it is vital that the specified inspection intervals be complied with.◀

Reserves for safety

But remember: the potentially shorter braking distances which BMW Motorrad ABS permits must not be used as an excuse for careless riding. ABS is primarily a means of ensuring a safety margin in genuine emergencies.
Take care when cornering. When you apply the brakes on a corner, the motorcycle's weight and momentum take over and even BMW Motorrad ABS is unable to counteract their effects.

Engine management with BMW Motorrad ASC

– with ASC[OE]

How does ASC work?

The BMW Motorrad ASC compares the wheel speeds of the front and rear wheel. From the speed difference the slip, and with it the stability reserves on the rear wheel are determined. When a slip limit is exceeded, the engine torque is adapted by the engine management system.

What are the design characteristics of the BMW Motorrad ASC?

The BMW Motorrad ASC is an assistance system for the driver and is designed for driving on public roads. Especially in at the limits of driving physics, the driver has a considerable influence on the control options of the ASC (shifting weight in curves, loose loads).
The system is not optimized for special requirements resulting under extreme weather conditions offroad or on the racetrack. The BMW Motorrad ASC can be deactivated for these cases.

Even with ASC, physical laws cannot be overridden. The driver is always responsible for adapting his/her driving style. Do not reduce the additional safety provided with risky driving.◀

Special situations

At an increasing angle, the acceleration performance is increasingly limited in accordance with physical laws. This can result in delayed acceleration when coming out of very tight curves.

To detect spinning or slipping away of the rear wheel, the speeds of the front and rear wheel are compared. If implausible values are detected over a longer period of time, the ASC function is deactivated for safety reasons and an ASC fault is indicated. The condition for a fault message is the completed self-diagnosis.
In the following unusual driving states, the BMW Motorrad ASC can be automatically deactivated.

Unusual driving conditions:

- Driving on the rear wheel (wheely) for a longer period with ASC deactivated.
- Rear wheel spinning in place with front brake pulled (burn out).
- Heating up on the main or auxiliary stand at idle or with gear engaged.

The ASC is reactivated by switching the ignition on and off and then driving at a speed above 3 mph (5 km/h).

If the front wheel loses contact to the ground during extreme acceleration, the ASC reduces the engine torque until the front wheel touches the ground again. In this case, BMW Motorrad recommends turning back the throttle grip somewhat to achieve a stable driving state again as quickly as possible.

On a slippery surface, the throttle grip should never be suddenly turned back completely without pull the clutch at the same time. The engine braking torque can cause the rear wheel to block, resulting in an unstable driving state. This case cannot be controlled by the BMW Motorrad ASC.

Accessories

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General instructions

BMW Motorrad recommends the use of parts and accessories for your motorcycle that are approved by BMW for this purpose. Your authorized BMW Motorrad retailer is the right place to go for genuine BMW parts and accessories,other BMW approved products, and expert advice on their installation and use.
These parts and products have been tested by BMW for safety, function and suitability. BMW accepts product liability for these products.
Conversely, BMW is unable to accept any liability whatsoever for parts and accessories which it has not approved.
Observe the information on the importance of tire sizes for chassis control systems (➠ 100).

⚠ BMW Motorrad cannot examine or test each product of outside origin to ensure that it can be used on or in connection with BMW motorcycles without constituting a safety hazard. Nor is this guarantee provided when the official approval of a specific country has been granted. Tests conducted by these instances cannot make provision for all operating conditions experienced by BMW motorcycles and, consequently, they are not sufficient in some circumstances.
Use only parts and accessories approved by BMW for your motorcycle.◀

Whenever you are planning modifications, comply with all the legal requirements. The motorcycle must not infringe on national road-vehicle construction and use regulations of your country.

Onboard sockets

Information on using onboard sockets:

automatic switch-off
Onboard sockets are switched off automatically under the following conditions:
– In case of insufficient battery voltage to maintain the ability to start the motorcycle
– If the maximum loadability specified in the technical data is exceeded
– During starting

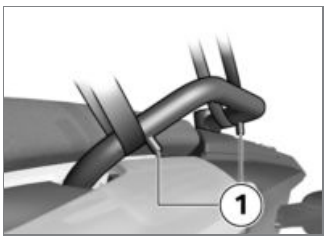
Operating electrical accessories
Additional devices connected to onboard sockets can only be put into operation when the ignition is switched on. The accessory remains operational if the ignition is subsequently switched off. Onboard sockets are switched off approx. 15 minutes after switch-

ing off the ignition to reduce the strain on the onboard electrical system.
Additional devices with low power consumption are possibly not detected by the vehicle electronics. In these cases, onboard sockets are already switched off shortly after the ignition is switched off.

Cable routing
The cables from the onboard sockets to the auxiliary devices must be routed in such a way that they:
– Do not impede the rider
– Do not restrict the steering angle and the driving characteristics
– Cannot be trapped

Luggage

Lashing down luggage



- Route luggage belts between motorcycle and along anti-slip locks **1**.

- Route luggage belt **2** as shown using example of a luggage roll.
- Check piece of luggage for secure hold.

Auxiliary headlight

– with LED auxiliary headlight OA

Operating auxiliary driving light

- Start engine.

- Press button **1** to switch on the auxiliary headlights.

The indicator lamp of the auxiliary headlights is switched on.

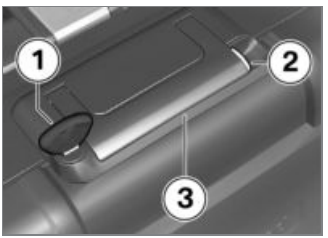
» If the auxiliary headlights were switched on prior to switching off the engine, they are automatically switched on again when starting the engine.

- Press button **1** again to switch off the auxiliary headlights.

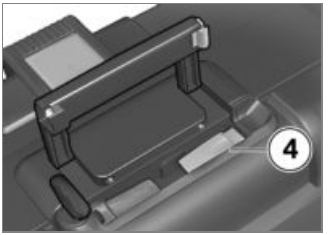
Case

– with case OA

Open case



- Turn key **1** in case lock perpendicular to direction of travel.
- Hold down yellow locking device **2** and fold out carrying handle **3**.

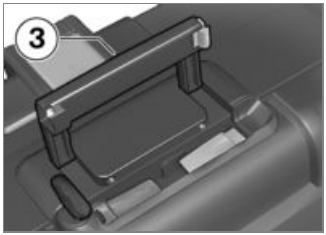


- Press yellow button **4** downward while opening case lid.

Close case

- Turn key in case lock perpendicular to direction of travel.
- Close case lid.

» The lid clicks audibly into place.



If the carrying handle is folded down when the slot of the case lock is oriented in the direction of travel, the lock tab can be damaged.
Before folding down the carrying handle, make sure that the slot of the case lock is perpendicular to the direction of travel.◀

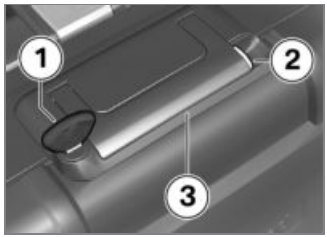
- Fold carrying handle **3** down.
- Turn key in case lock in the direction of travel and remove.

Adjust case volume

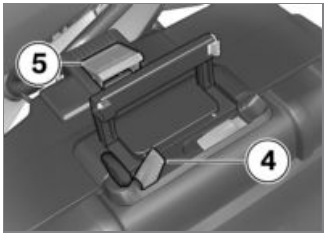
- Open and empty case.

- Engage pivot lever **1** in upper end position to obtain smaller volume.
- Engage pivot lever **1** in lower end position to set larger volume.
- Close case.

Remove case



- Turn key **1** in case lock perpendicular to direction of travel.
- Hold down yellow locking device **2** and fold out carrying handle **3**.



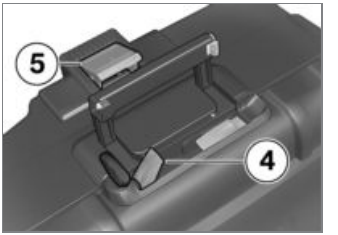
- Pull up red release lever **4**.

» Locking flap **5** pops up.

- Fold locking flap all the way open.
- Remove case from mount by its handle.

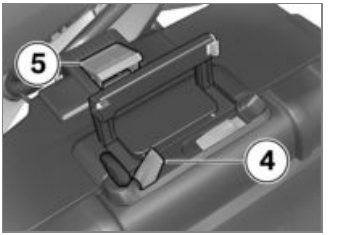
Mounting case

- Turn key in case lock perpendicular to direction of travel.



- Fold up locking flap **5** completely by pulling red release lever **4** upward if necessary.

- Insert case in case carrier **6**, then swing as far as possible onto mount **7**.



- Press locking flap **5** downward as far as possible and hold in place.
- Press red release lever **4** downward.

» The locking flap **5** clicks into place.

⚠ If the carrying handle is folded down when the slot of the case lock is oriented in the direction of travel, the lock tab can be damaged.
Before folding down the carrying handle, make sure that the slot of the case lock is perpendicular to the direction of travel.◀

- Fold carrying handle down.
- Turn key in direction of travel and remove.

Topcase

– with Topcase[OA]

Open the Topcase

- Turn key **1** in Topcase lock into vertical position.
- Hold down yellow locking device **2** and fold out carrying handle **3**.

- Press yellow button **4** toward front while pressing Topcase lid upward.

Closing the Topcase

- Turn key in Topcase lock into vertical position.

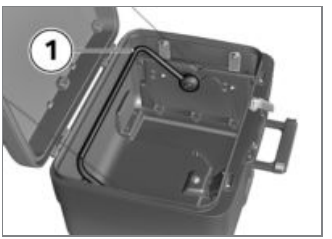
- Close Topcase lid with firm pressure.

If the carrying handle is folded down when the slot of the Topcase lock is horizontal, the lock tab can be damaged. Before folding down the carrying handle, make sure that the slot of the Topcase lock is vertical.◀

- Fold carrying handle **3** down.
» Carrying handle audibly engages.
- Turn key in Topcase lock into horizontal position and remove.

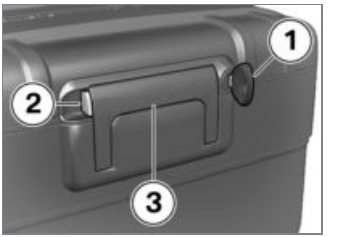
Adjusting Topcase volume

- Open and empty Topcase.



- Engage pivot lever **1** in front end position to set larger volume.
- Engage pivot lever **1** in rear end position to set smaller volume.
- Close Topcase.

Removing Topcase



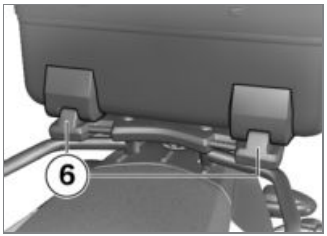
- Turn key **1** in Topcase lock into vertical position.
- Hold down yellow locking device **2** and fold out carrying handle **3**.

- Pull red lever **4** toward rear.
» Locking flap **5** pops up.
- Fold locking flap **5** all the way open.
- Remove Topcase from mounting by its handle.

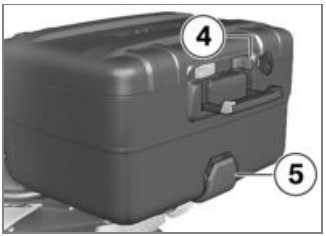
Mounting the Topcase

- Turn key in Topcase lock into vertical position.

- Fold up locking flap **5** completely by pulling red release lever **4** toward rear if necessary.



- Hook Topcase into front holders **6** of Topcase retaining plate.
- Press Topcase onto Topcase retaining plate at rear.



- Fold locking flap **5** closed as far as possible and hold in place.
- Press red release lever **4** toward front.

» Locking flap clicks into place.

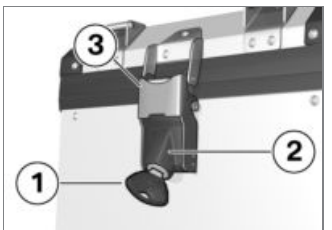
If the carrying handle is folded down when the slot of the Topcase lock is horizontal, the lock tab can be damaged. Before folding down the carrying handle, make sure that the slot of the Topcase lock is vertical.◀

- Fold carrying handle down.
- Turn key into horizontal position and remove.

Aluminum case

– with aluminum case OA

Open case

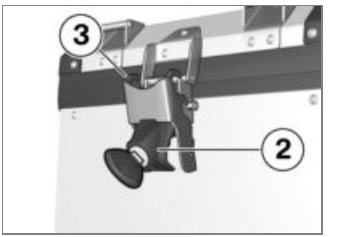


- Turn key **1** counterclockwise.

▷ The case cover can be opened with both the left and the right latch.◀

- Press lock housing **2** upward to release locking claw **3**.
- Pull locking claw **3** to side and open cover lid.

Close case



- Close case lid.
- Position locking claw **3** on lid.
- Press lock housing **2** downward while making sure that claw grips into lid.
- To lock lock, turn key clockwise and remove.

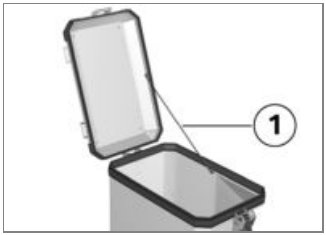
Removing case lid

- Open one lock of case lid.

- Detach lid retaining cable **1**.
- Close case lid.
- Open second latch of case lid.
- Remove case lid.

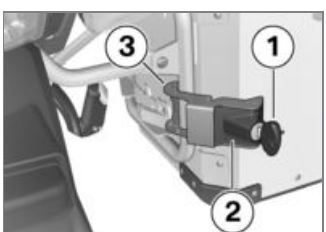
Installing case lid

- Lay case lid on case.
- Close one lock of case lid.
- Open case lid toward closed side.



- Hook in lid retaining cable **1**.
- Close case lid.
- Close second lock of case lid.

Remove case

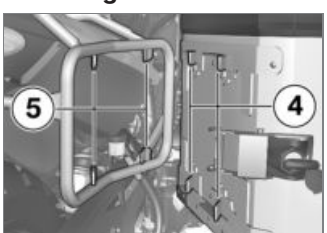


- Turn key **1** counterclockwise.
- Press lock housing **2** to side to release locking claw **3**.
- Pull locking claw **3** to side while holding case in place.

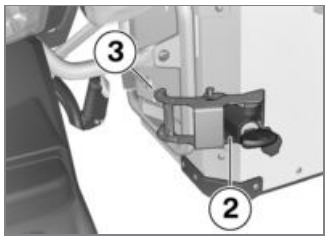
⚠ On longer drives, left case and case carrier may become hot.
Allow case and case carrier to cool down before removing case.◀

- Pull case back as far as possible and remove toward outside.

Mounting case



- Position case on case carrier and slide toward front so that mounts on case carrier **5** and on case **4** mesh.



- Position locking claw **3** on case carrier while holding case in place.
- Press lock housing **2** to side while ensuring that claw grips around bracket.
- Turn key clockwise and remove.

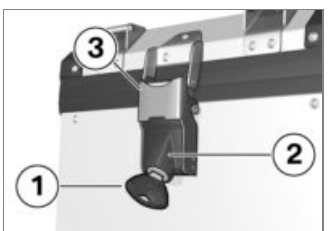
Aluminum Topcase

– with aluminum Topcase[OA]

Topcase when driving offroad

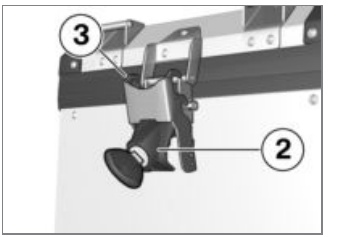
When driving offroad, the Topcase should be removed or the back padding available as an optional accessory should be used.

Open the Topcase



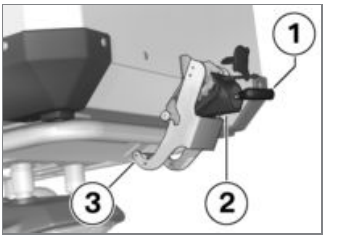
- Turn key **1** counterclockwise.
- Press lock housing **2** upward to release locking claw **3**.
- Pull locking claw **3** toward rear and open lid.

Closing Topcase



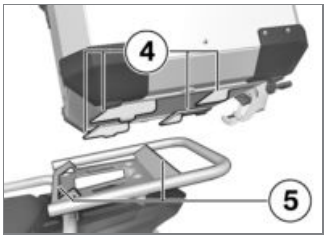
- Close Topcase lid.
- Position locking claw **3** on lid.
- Press lock housing **2** downward while making sure that claw grips into lid.
- To lock lock, turn key clockwise and remove.

Removing Topcase

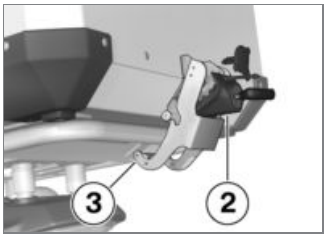


- Turn key **1** counterclockwise.
- Press lock housing **2** downward to release locking claw **3**.
- Pull locking claw **3** back.
- First pull Topcase toward rear and then remove upward.

Mounting the Topcase



- Position Topcase on Topcase carrier and slide forward so that mounts on Topcase carrier **5** and on Topcase **4** mesh.



- Position locking claw **3** on Topcase carrier.
- Press lock housing **2** upward while making sure that claw grips around carrier.
- To lock lock, turn key clockwise and remove.

Maintenance

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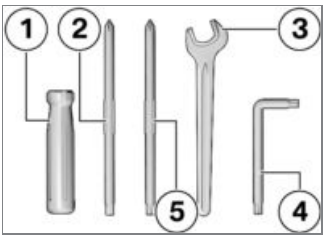
General instructions

The "Maintenance" chapter describes work involving the checking and replacement of wear parts that can be performed with a minimum of effort.
If special tightening torques are to be taken into account for assembly, these are listed. An overview of all required tightening torques is contained in the chapter "Technical Data".
Information on additional maintenance and repair work is provided in the Repair Manual for your motorcycle on DVD, which you can obtain from your authorized BMW Motorrad retailer.

Special tools and thorough specialized knowledge are required to carry out some of the work described here. If you are in doubt, consult a certified workshop, preferably your authorized BMW Motorrad retailer.

Onboard tool kit

Standard tool kit



1 Screwdriver handle

2 Reversible screwdriver insert
with Phillips and straight blade
– Replacing front and rear turn indicator bulbs (➠ 112).
– Replacing license-plate bulb (➠ 113).
– Removing battery (➠ 119).

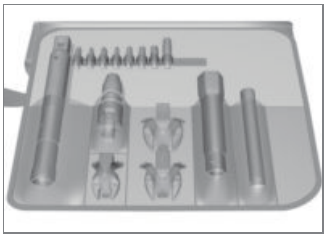
3 Open-ended wrench
Wrench size: 17 mm
– Adjust mirror arm (➠ 47).

4 Torx wrench T40
– Adjusting headlight range (➠ 52).

5 Reversible screwdriver insert
with Phillips and Torx T25 blade
– Removing center fairing panel (➠ 115).

Service tool kit

– with service toolkit OA



For expanded service work (e.g. removing and installing wheels), BMW Motorrad has put together a service tool kit matched to your motorcycle. You can purchase this tool kit from your authorized BMW Motorrad retailer.

Engine oil

Checking engine oil level

The oil level varies with the temperature of the oil. The higher the temperature, the higher the level of oil in the sump. Checking the oil level with the engine cold or after a short trip leads to misinterpretations and therefore to incorrect oil fill quantities.

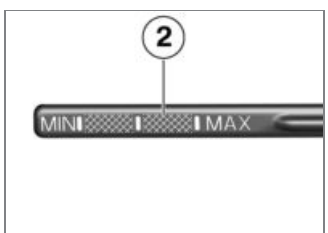
To ensure that the display of the engine oil level is correct, only check the oil level after a longer trip.◀

- Wipe area around oil filler location clean.
- Allow engine to idle until fan starts, then let it continue running for an additional minute.
- Switch off engine.
- Make sure ground is level and firm and hold motorcycle at operating temperature vertically.

– with center stand OE

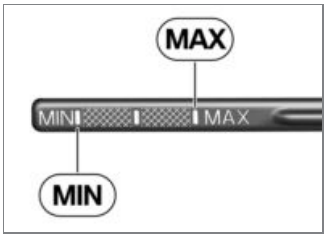
- Make sure ground is level and firm and place motorcycle at operating temperature on its center stand.◁

- Remove oil dipstick **1**.



- Wipe off the graduated section **2** with a dry cloth
- Position oil dipstick on oil filler opening, but do not screw in.

- Remove oil dipstick and read oil level.



	Specified level of engine oil
–	between MIN and MAX marking

If oil level is below MIN mark:
- Topping up engine oil (➠ 92).

If oil level is above MAX mark:
- Have oil level corrected by a specialized workshop, preferably an authorized BMW Motorrad retailer.
- Install oil dipstick.

Topping up engine oil

- Make sure ground is level and firm and park motorcycle.
- Wipe area around fill location clean.

- Remove oil dipstick **1**.

⚠ Both too little and too much engine oil can lead to engine damage.
Always make sure that the oil level is correct.◀

- Add engine oil up to specified level.
- Checking engine oil level (➠ 91).
- Install oil dipstick.

Brake system

Checking brake operation

- Pull handbrake lever.

» Pressure point must be clearly perceptible.

- Press footbrake lever.

» Pressure point must be clearly perceptible.

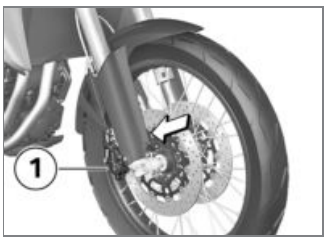
If no clear pressure points are perceptible:

⚠ Incorrect working practices endanger the reliability of the brakes.
Have all work on the brake system carried out by specialists.◀

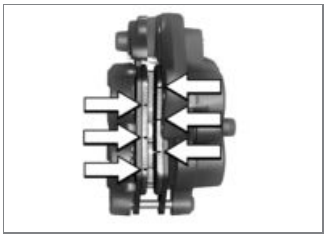
- Have the brakes checked by a certified workshop, preferably an authorized BMW Motorrad retailer.

Checking front brake pad thickness

- Make sure ground is level and firm and park motorcycle.



- Visually inspect left and right brake pads to determine their thickness. Direction of view: between wheel and front wheel control to brake calipers **1**.



Front brake-pad wear limit

– min 0.04 in (min 1.0 mm) (Only friction material without carrier plate. Wear markings (grooves) must be clearly visible.)

If the wear indicators are no longer clearly visible:

⚠ Dropping below the minimum pad thickness leads to reduced braking performance and may result in damage to the brakes.

In order to ensure the operating reliability of the brake system, make sure that the brake pads are not worn beyond their minimum thickness.◀

- Have the brake pads replaced by a specialist service facility, preferably an authorized BMW Motorrad retailer.

Checking rear brake pad thickness

- Make sure ground is level and firm and park motorcycle.

- Check the brake pad thickness with visual inspection. Direc-

tion of view: from rear at brake caliper **1**.

Rear brake-pad wear limit
– min 0.04 in (min 1.0 mm) (Only friction material without carrier plate.)

If brake pads are worn:

Dropping below the minimum pad thickness leads to reduced braking performance and may result in damage to the brakes.
In order to ensure the operating reliability of the brake system, make sure that the brake pads are not worn beyond their minimum thickness.◀

- Have the brake pads replaced by a specialized workshop, preferably an authorized BMW Motorrad retailer.

Checking front brake fluid level

A low fluid level in the brake reservoir can allow air to penetrate the brake system. This significantly reduces braking efficiency.
Check brake fluid level regularly.◀

- Make sure ground is level and firm and hold motorcycle vertically.

– with center stand OE

- Make sure ground is level and firm and place motorcycle on its center stand.◁

- Move handlebars into straight-ahead position.

- Check brake fluid level in front brake-fluid reservoir **1**.

The brake fluid level in the brake-fluid reservoir drops due to brake pad wear.◀

Front brake fluid level (visual check)

– Brake fluid (DOT4)

– The brake fluid level must not fall below the MIN mark.

If brake fluid level falls below the approved level:

- Have the defect corrected as soon as possible by a specialist service facility, preferably an authorized BMW Motorrad retailer.

Checking rear brake fluid level

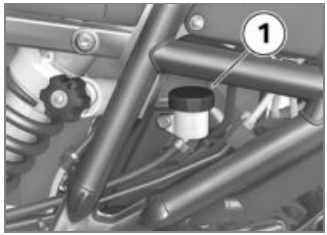
A low fluid level in the brake reservoir can allow air to penetrate the brake system. This significantly reduces braking efficiency.

Check brake fluid level regularly.◀

- Make sure ground is level and firm and hold motorcycle vertically.

– with center stand OE

- Make sure ground is level and firm and place motorcycle on its center stand.◁



- Read brake fluid level at rear brake-fluid reservoir **1**.

The brake fluid level in the brake-fluid reservoir drops due to brake pad wear.◀

Rear brake fluid level (visual check)

– Brake fluid (DOT4)

– The brake fluid level must not fall below the MIN mark.

If brake fluid level falls below the approved level:

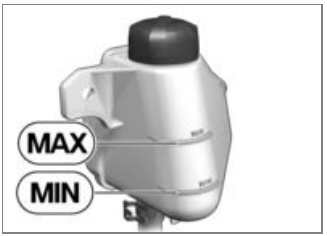
- Have the defect corrected as soon as possible by a specialist service facility, preferably an authorized BMW Motorrad retailer.

Coolant

Checking coolant level

- Make sure ground is level and firm and park motorcycle.
- Turn handlebars to the right.

- Read off coolant level on expansion tank **1**. Viewing direction: from front through windshield and right-hand side panel.



Coolant, specified level

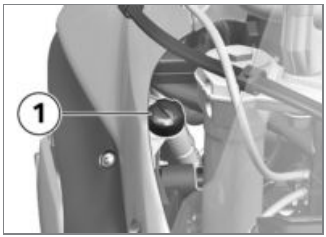
– Radiator antifreeze

– between MIN and MAX marks on the expansion tank

If coolant level drops below approved level:

- Add coolant.

Topping up coolant



- Open cap **1** of expansion tank.
- Add coolant up to specified level using a suitable funnel.
- Close cap of expansion tank.

Clutch

Checking clutch operation

- Pull the clutch lever.

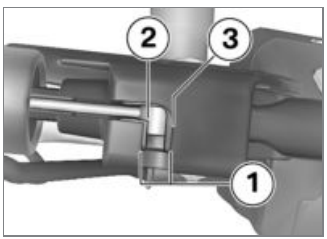
» Pressure point must be clearly perceptible.

If no clear pressure point can be felt:

- Have the clutch checked by a specialized workshop, preferably an authorized BMW Motorrad retailer.

Checking clutch play

- Turn handlebars to left.



- Actuate the clutch lever until resistance can be felt. Observe cut-out **1** in the handlebar fitting.

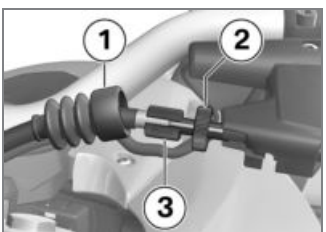
» The edge of cable mount **2** should move to the edge of handlebar fitting **3**.

Clutch cable play
– 0.2 in (5 mm) (Turn handlebars to the left)

If clutch play is outside tolerance:

- Adjusting clutch play (➠ 97).

Adjusting clutch play



- Slide rubber grommet **1** to the side.
- Loosen the nut **2**.
- To increase clutch play: turn adjusting screw **3** into handlebar fitting.

- To decrease clutch play: turn adjusting screw **3** out of handlebar fitting.
- Checking clutch play (➠ 97).
- Tighten nut **2** while holding adjusting screw **3** to ensure that it does not move out of position.
- Pull rubber grommet **1** over the nuts.

Rims and tires

Checking rims

- Make sure ground is level and firm and park motorcycle.
- Visually inspect rims for defects.
- Have damaged rims checked and, if necessary, replaced by a specialized workshop, preferably an authorized BMW Motorrad retailer.

Checking spokes

- Make sure ground is level and firm and park motorcycle.
- Sweep across spokes with a screwdriver handle or similar item, paying attention to resulting series of notes.

If you hear an uneven series of notes:

- Have spokes checked by a certified workshop, preferably an authorized BMW Motorrad retailer.

Checking tire tread depth

The handling of your motorcycle can already change for the worse before the legally prescribed minimum tread depth is reached.
Have tires replaced even before the minimum tread depth is reached.◀

- Make sure ground is level and firm and park motorcycle.
- Measure tire tread depth in main tread grooves with wear indicating marks.

Tires have wear indicators integrated into the main tread grooves. If the tire tread has worn down to the level of the marks, the tire is completely worn. The locations of the marks are indicated on the edge of the tire, e.g. by the letters TI, TWI or by an arrow.◀

When the minimum tread depth is reached:

- Replace tires concerned.

Chain

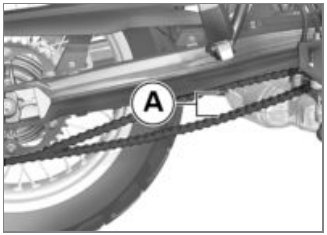
Lubricating chain

Dirt, dust and insufficient lubrication will considerably shorten the service life of the drive chain.
Clean and lubricate the drive chain regularly.◀

- Lubricate drive chain at least every 620 mls (1000 km). After driving though water or dust and dirt, carry out lubricate earlier accordingly.
- Switch off ignition and engage Neutral.
- Clean drive chain with suitable cleaning agent, dry and apply chain lubricant.
- Wipe off excess lubricant.

Checking chain sag

- Make sure ground is level and firm and park motorcycle.
- Turn the rear wheel until the position with the lowest chain sag is reached.



- Press chain upward and downward using a screwdriver and measure difference **A**.

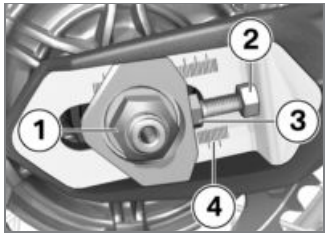
Chain sag
– 1.4...1.8 in (35...45 mm) (Motorcycle unloaded on side stand)

If the measured value is outside the permissible tolerance:

- Adjust chain sag (➠ 99).

Adjusting chain sag

- Make sure ground is level and firm and park motorcycle.



- Loosen quick-release axle nut **1**.
- Loosen lock nuts **2** on left and right.
- Adjust chain sag with adjusting screws **3** on left and right.
- Checking chain sag (➠ 99).
- Make sure that the same scale value **4** is set on the left and right.
- Tighten locknuts **2** on left and right with appropriate torque.

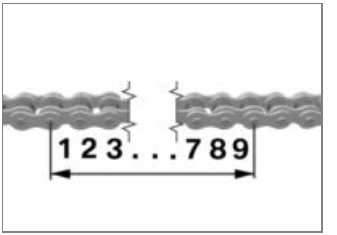
Locknut of drive-chain tensioning screw
– 14 lb/ft (19 Nm)

- Tighten quick-release axle nut **1** to appropriate torque.

Rear-wheel quick-release axle in swinging arm
– 74 lb/ft (100 Nm)

Checking chain wear

- Make sure ground is level and firm and park motorcycle.
- Engage 1st gear.
- Rotate rear wheel toward front of vehicle until the chain is tensioned.
- Determine chain length below the rear wheel swing arm with 9 rivets.



Permissible chain length
– max 5.7 in (max 144.30 mm) (Measured over 9 rivets, chain tensioned)

If the chain has reached the maximum approved length:

- Contact a specialized workshop, preferably an authorized BMW Motorrad retailer.

Wheels

Tire recommendation

For every size of tire, BMW Motorrad has tested certain makes and approved those it has found to be roadworthy. If you use wheels and tires that have not been approved, BMW Motorrad cannot assess their suitability or provide any guarantee as to their road safety. Use only wheels and tires that BMW Motorrad has approved for your type of motorcycle. Extensive information is available at your authorized BMW Motorrad retailer or on the Internet at www.bmw-motorrad.com.

Affect of wheel sizes on chassis control systems

The wheel sizes play a major role in the chassis control systems ABS and ASC. Especially the diameter and width of the wheels

are stored in the control unit as the basis for all necessary calculations. A change in these sizes due to conversion to others than the wheels installed as standard equipment can seriously affect the control comfort of these systems.

The sensor wheels required for wheel speed detection must also match the control systems installed and may not be replaced.

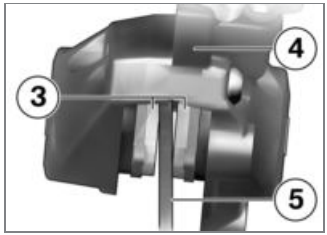
If you want to equip your motorcycle with different wheels, please speak to a specialized workshop, and preferably a BMW Motorrad retailer. In some cases the data stored in the control units can be adapted to the new wheel sizes.

Removing front wheel

- Make sure ground is level and firm and park motorcycle.

- Remove screw **1** and extract the ABS sensor from its socket.

- Remove screws **2** of right-hand brake caliper.



- Push brake pads **3** apart slightly by turning the brake caliper **4** back and forth against the brake rotor **5**.
- Mask off area of wheel rim that could be scratched in process of removing brake calipers.

Once the calipers have been removed, there is a risk of the brake pads being pressed together to the extent that they cannot be slipped back over the brake disk on reassembly.

Do not operate the handbrake

lever when the brake calipers have been removed.◀

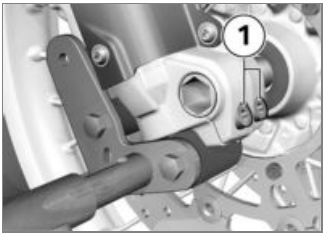
- Carefully pull brake calipers back to remove them from the brake rotors.

- Place motorcycle on a suitable auxiliary stand.

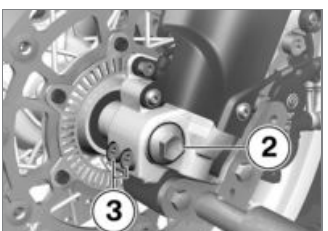
– with center stand OE

- Make sure ground is level and firm and place motorcycle on center stand.◁

- Raise front of motorcycle until the front wheel can turn freely. To lift motorcycle, BMW Motorrad recommends using BMW Motorrad front wheel stand.
- Mounting front wheel stand (➠ 108).

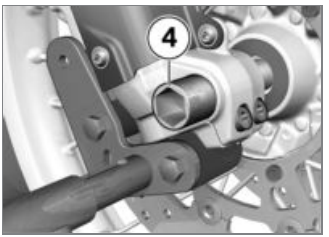


- Unscrew right-hand axle clamping screws **1**.

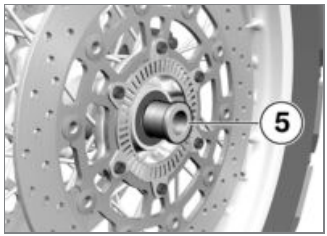


- Remove axle screw **2**.
- Unscrew left-hand axle clamping screws **3**.

- Push axle as far as possible toward inside.



- Remove axle **4** while supporting wheel.
- Do not remove grease on axle.
- Roll front wheel forward to remove.

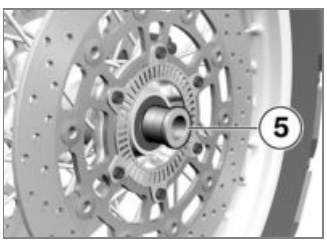


- Remove spacing bushing **5** on left side from wheel hub.

Installing front wheel

Malfunctions may occur during control interventions by ABS and ASC if a wheel other than the standard wheel is installed.
Please see the information on the effect of wheel sizes on the chassis control systems ABS and ASC at the beginning of this chapter.◀

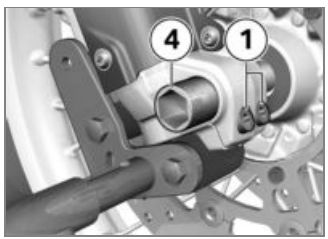
Threaded fasteners not tightened to the specified torque can work loose or their threads can suffer damage. Always have the tightening torques checked by a specialized workshop, preferably an authorized BMW Motorrad retailer.◀



- Mount spacing bushing **5** on left side on wheel hub.

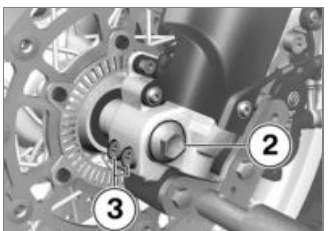
The front wheel must be installed right way round to rotate in the correct direction. Observe the direction of rotation arrows on the tires or on the rim.◀

- Roll front wheel into front suspension while guiding brake disk between brake pads of left-hand brake caliper.



- Lift front wheel and insert axle **4** as far as possible.
- Tighten right-hand axle clamping screws **1** with specified torque or use suitable tool to brace for next work step.

Pinch bolt of quick-release axle
– Tightening sequence: Tighten alternatively
– 14 lb/ft (19 Nm)



- Install the axis screw **2** with torque.

Front quick-release axle in axle mount
– 22 lb/ft (30 Nm)

- Tighten left-hand axle clamping screws **3** to appropriate torque.

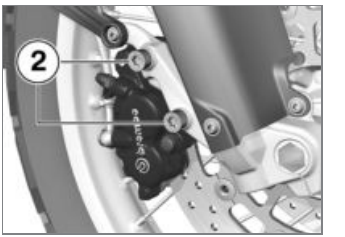
Pinch bolt of quick-release axle
– Tightening sequence: Tighten alternatively
– 14 lb/ft (19 Nm)

- If they have been tightened, loosen right-hand axle clamping screws **1** again.
- Remove front wheel stand.

– without center stand OE

- Remove auxiliary stand.◁

- Place right-hand brake caliper on brake disk.

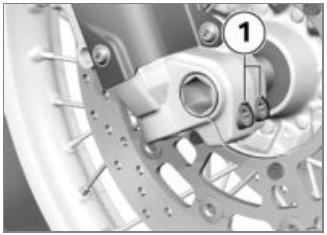


- Tighten screws **2** to the specified tightening torque.

Brake caliper on telescopic forks
– 28 lb/ft (38 Nm)

- Insert ABS sensor in its socket and install screw **1**.
- Remove adhesive tape from wheel rim.
- Operate brakes several times until brake pads contact brake disk.

- Firmly compress spring forks several times.

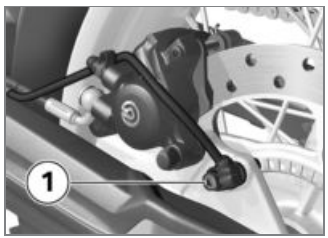


- Tighten right axle clamping screws **1** to specified tightening torque.

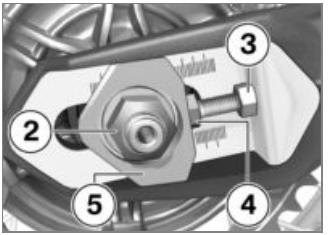
	Pinch bolt of quick-release axle
–	Tightening sequence: Tighten alternatively
–	14 lb/ft (19 Nm)

Removing rear wheel

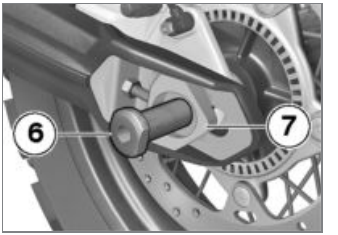
- Make sure ground is level and firm and place motorcycle on a suitable auxiliary stand.
  – with center stand OE
- Make sure ground is level and firm and place motorcycle on center stand.◁



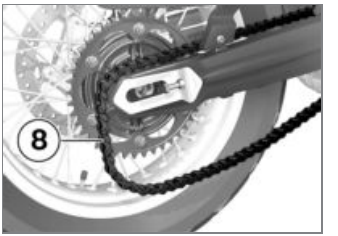
- Remove screw **1** and take speed sensor out of hole.



- Remove axle nut **2**.
- Loosen lock nuts **3** on left and right by turning counterclockwise.
- Loosen adjusting screws **4** on left and right by turning clockwise.
- Remove adjusting plate **5** and slide axle as far as possible toward inside.



- Remove quick-release axle **6** and take out adjusting plate **7**.



- Roll rear wheel as far forward as possible and remove chain **8** from chain sprocket.
- Roll rear wheel toward rear out of swinging arm.

The chain sprocket and the spacer sleeves on the left and right are loosely inserted in the wheel. When removing, make sure that these parts are not damaged or lost.◀

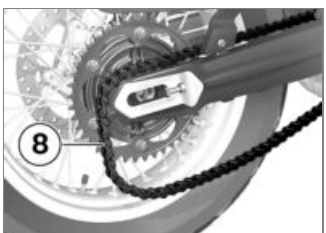
Installing rear wheel

Malfunctions may occur during control interventions by ABS and ASC if a wheel other than the standard wheel is installed.
Please see the information on the effect of wheel sizes on the chassis control systems ABS and ASC at the beginning of this chapter.◀

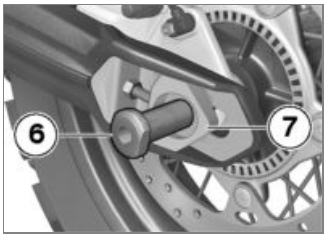
Threaded fasteners not tightened to the specified torque can work loose or their threads can suffer damage. Always have the tightening

torques checked by a specialized workshop, preferably an authorized BMW Motorrad retailer.◀

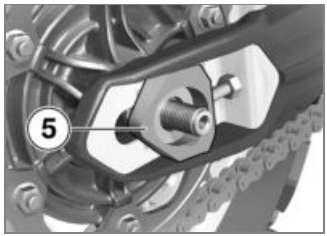
- Roll rear wheel into swinging arm while guiding brake disk between brake pads.



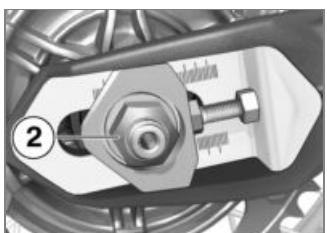
- Roll rear wheel as far forward as possible and lay chain **8** on chain sprocket.



- Mount left-hand adjusting plate **7** in swinging arm and install quick-release axle **6** in brake caliper and rear wheel.
- Make sure that axle fits in cutout of adjusting plate.



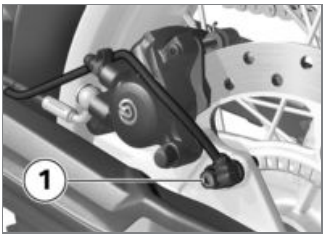
- Insert right-hand adjusting plate **5**.



- Install axle nut **2**, however do not tighten yet.

– without center stand OE

- Remove auxiliary stand.◁



- Insert speed sensor in hole and install screw **1**.

- Adjust chain sag (➠ 99).

Front wheel stand

Mounting front wheel stand

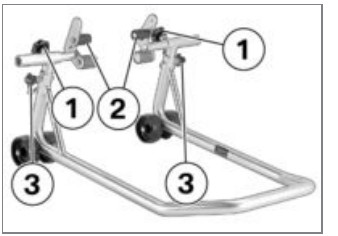
⚠ The BMW Motorrad front wheel stand is not designed to support the motorcycle without the assistance of an auxiliary stand. A motorcycle standing on the front wheel stand and the rear wheel alone can fall over. Place the motorcycle on an auxiliary stand before lifting the front wheel with the BMW Motorrad front-wheel stand.◀

- Place motorcycle on a suitable auxiliary stand.

– with center stand OE

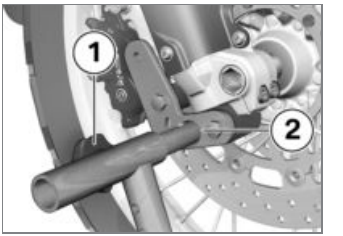
- Make sure ground is level and firm and place motorcycle on center stand.◁

- Use basic stand with tool number (83 30 0 402 241) in combination with front-wheel adapter (83 30 0 402 242).

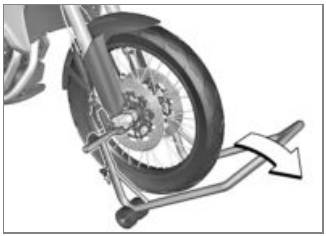


- Loosen adjusting screws **1**.

- Push two mounts **2** far enough apart that front suspension fits between them. Adjust support pin to match front suspension.
- Use locating pins **3** to set front wheel stand to desired height.
- Center front wheel stand relative to front wheel and push it against front axle.



- Align two mounts **2** so that front suspension rests securely on them.
- Tighten adjusting screws **1**.



- Apply uniform pressure to push front wheel stand down and raise motorcycle.

– with center stand OE

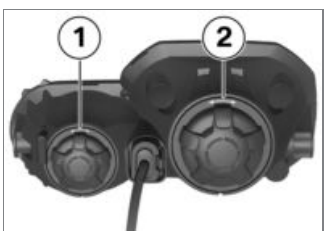
⚠ If the motorcycle is raised too far at the front the center stand will lift clear of the ground and the motorcycle could topple to one side.
When raising the motorcycle, make sure that the center stand remains on the ground. Adjust the height of the front wheel stand if necessary.◀

- Ensure motorcycle is standing securely.◁

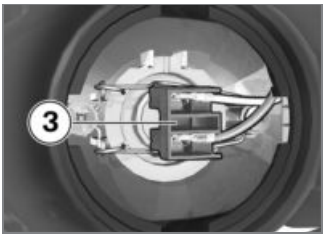
Lamps

Replacing low-beam and high-beam bulb

- Make sure ground is level and firm and park motorcycle.
- Switch off ignition.



- Remove cover **1** for high-beam headlight or cover **2** for low-beam headlight.



- Open connector **3**.

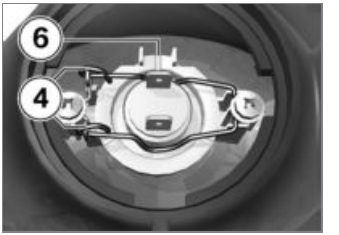
- Remove spring strap **4** from detents and fold to side.
- Take out bulb **5**.

- Replace defective bulb.

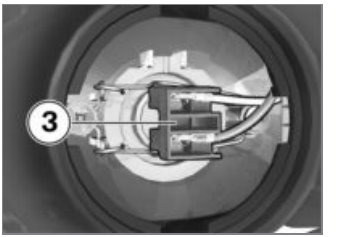
Bulb for high-beam headlight
– H7 / 12 V / 55 W

Bulbs for low-beam headlight
– H7 / 12 V / 55 W

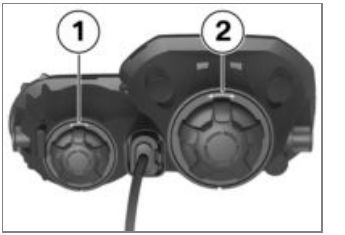
- To avoid contamination on the bulb's glass surface, never touch or hold the bulb anywhere other than on its metal socket base.



- Insert bulb while ensuring correct alignment at Position **6**.
- Close the spring clamp **4** and lock it in place.



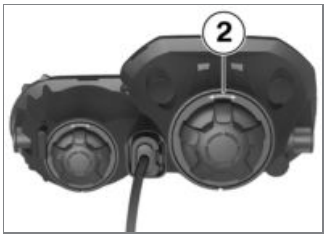
- Close connector **3**.



- Install cover **1** or cover **2**.

Replacing parking light bulb

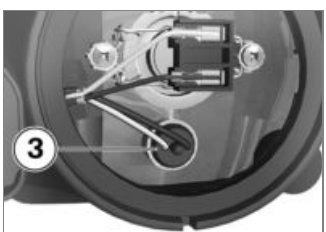
- Make sure ground is level and firm and park motorcycle.
- Switch off ignition.



- Remove cover **2**.

- Pull bulb out of bulb socket.

- Press bulb into socket.

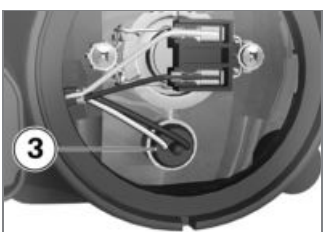


- Pull parking-light bulb **3** out of headlight housing.

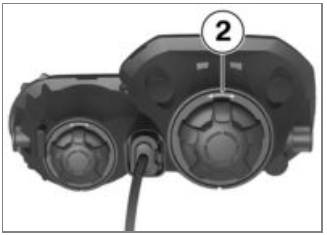
- Replace defective bulb.

	Bulb for parking light
– W5W / 12 V / 5 W	

- To prevent contaminants from being deposited on the new bulb's glass surface, always use a clean, dry cloth to hold it.



- Insert parking-light bulb **3** into headlight housing.



- Install cover **2**.

Replacing brake and tail light bulb

- The diode taillight can only be completely replaced. Please contact a specialized workshop for this purpose, preferably an authorized BMW Motorrad retailer.

Replacing front and rear turn indicator bulbs

- Make sure ground is level and firm and park motorcycle.
- Switch off ignition.

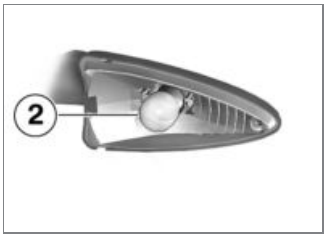
- Remove screw **1**.

- Pull glass on screw connection side out of mirror housing.

- Remove bulb **2** from light housing by turning it counterclockwise.
- Replace defective bulb.

Bulbs for flashing turn indicators, front
– R10W / 12 V / 10 W

- To prevent contaminants from being deposited on the new bulb's glass surface, always use a clean, dry cloth to hold it.



- Install bulb **2** by screwing clockwise into light housing.

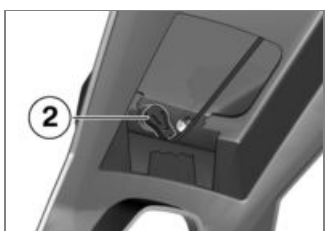
- Insert inside end of lens into light housing and close.

- Install screw **1**.

Replacing license-plate bulb

- Make sure ground is level and firm and park motorcycle.
- Switch off ignition.

- Remove screw **1** of mudguard cover and take off cover.



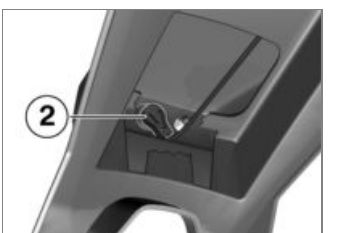
- Pull bulb socket **2** out of bulb holder.

- Pull bulb out of socket.
- Replace defective bulb.

	Bulb for license-plate light
– W5W / 12 V / 5 W	

- To prevent contaminants from being deposited on the new bulb's glass surface, always use a clean, dry cloth to hold it.

- Mount bulb in socket.



- Insert bulb socket **2** into bulb holder.

- Position mudguard cover and install screw **1**.

Replacing auxiliary driving light

– with LED auxiliary headlight OA

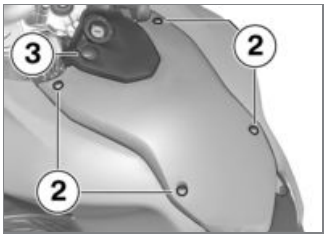
- The auxiliary driving light can only be completely replaced. Please contact a specialized workshop for this purpose, preferably an authorized BMW Motorrad retailer.

Fairings and Panels

Removing center fairing panel

- Remove seat (➠ 52).

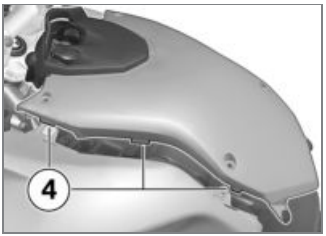
- Remove screws **1** on left and right.



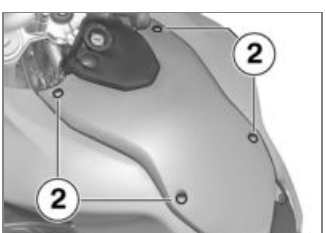
- Remove four screws **2**.
- Disconnect plug connection at onboard socket **3**.
- Remove center fairing panel.

Installing center fairing panel

- Connect plug connection to onboard socket.



- Lay on center fairing panel. Make sure that three tabs **4** on left and right grip into side panels.



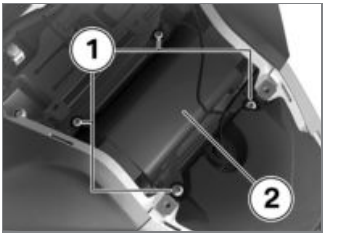
- Install four screws **2**.

- Install screws **1** on left and right.
- Installing seat (➠ 53).

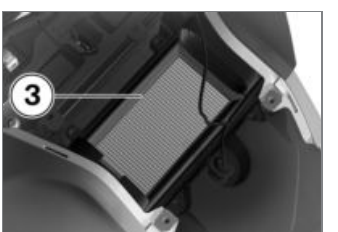
Air filter

Removing air filter

- Removing center fairing panel (➠ 115).

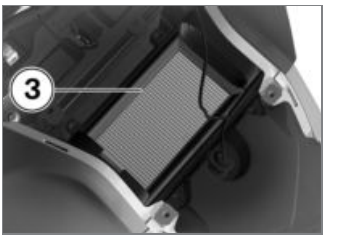


- Remove four screws **1**.
- Remove air filter cover **2**. For this purpose, slightly push the fairing side panels outwards.

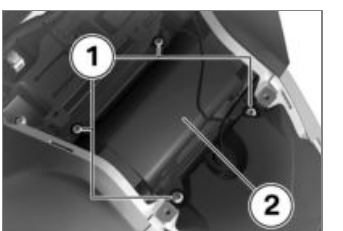


- Take out air filter **3**.

Installing air filter



- Install air filter **3**.



- Attach air filter cover **2**. For this purpose, slightly push the fairing side panels outwards.
- Install screws **1** with washers.

- Installing center fairing panel (➠ 115).

Jump-starting

The wires leading to the power socket do not have a load-capacity rating adequate for jump-starting the engine. Excessively high current can lead to a cable fire or damage to the motorcycle electronics.
Do not use the onboard socket to jump-start the engine of the motorcycle.◀

A short-circuit can result if the crocodile clips of the jump leads are accidentally brought into contact with the motorcycle.
Use only jump leads fitted with fully insulated crocodile clips at both ends.◀

Jump-starting with a donor-battery voltage higher than 12 V can damage the motorcycle electronics.
The battery of the donor vehicle must have a voltage of 12 V.◀

- Removing center fairing panel (➠ 115).
- When jump-starting the engine, do not disconnect the battery from the onboard electrical system.

- First connect positive terminal of drained battery to positive terminal of charging battery with red jumper cable (positive terminal on this vehicle: Position **2**).
- Connect black jumper cable to negative terminal of charging battery and then to negative terminal of drained battery (negative terminal on this vehicle: Position **1**).

As an alternative to the negative battery terminal, the spring strut bolt can also be used.◀

- Allow the engine on the support vehicle to run while jump-starting.
- Start engine of vehicle with discharged battery in usual way; if engine refuses to start, wait a few minutes before repeating attempt to protect starter and supporting battery.
- Allow both engines to run for several minutes before disconnecting jumper cables.

- Disconnect jump lead from negative terminals first, then disconnect second lead from positive terminals.

To start the engine, do not use start sprays or similar items.◀

- Installing center fairing panel (➠ 115).

Battery

Maintenance instructions

Correct upkeep, recharging and storage will prolong the life of the battery and are essential if warranty claims are to be considered.

Compliance with the points below is important in order to maximize battery life:

– Keep the surface of the battery clean and dry
– Do not open the battery
– Do not top up with water
– Be sure to read and comply with the instructions for charging the battery on the following pages
– Do not turn the battery upside down

If the battery is not disconnected, the onboard electronics (clock etc.) will drain the battery. This can cause the battery to run flat. If this happens, warranty claims will not be accepted.

During driving breaks of more than four weeks, a trickle-charger should be connected to the battery.◀

BMW Motorrad has developed a trickle-charger specially designed for compatibility with the electronics of your motorcycle. Using this charger, you can keep the battery charged during long periods when the motorcycle is not being used without having to disconnect the battery from the motorcycle's onboard systems. Additional information is available at your authorized BMW Motorrad retailer.◀

Charging connected battery

- Remove devices connected to onboard power sockets.

Charging the connected battery directly at the battery terminals can damage the motorcycle electronics.

To charge the battery via the battery terminals, disconnect the battery first.◀

Charging the battery via the onboard socket is only possible with suitable chargers. Unsuitable chargers can result in damage to the motorcycle electronics.

Use BMW chargers with part numbers 77 02 7 722 470

(230 V), 77 02 7 729 048 (230 V), or 77 02 7 722 471 (110 V). If in doubt, charge the disconnected battery directly at the terminals.◀

If you switch on the ignition and the multifunction display and indicator lights fail to light up, the battery is completely flat (battery voltage below 9 V). Attempting to charge a completely flat battery via the onboard socket can cause damage to the motorcycle's electronics. Always charge a completely drained battery directly at the terminals of the disconnected battery.◀

- Charge disconnected battery via onboard socket.

The motorcycle's onboard electronics know when the battery is fully charged. The onboard socket is switched off when this happens.◀

- Comply with operating instructions of charger.

If you are unable to charge the battery via the onboard socket, you may be using a charger that is not compatible with your motorcycle's electronics. In this case, please charge the battery directly at the terminals of the disconnected battery.◀

Charging disconnected battery

- Charge battery using a suitable charger.
- Comply with operating instructions of charger.
- Once battery is fully charged, disconnect charger's terminal clips from battery terminals.

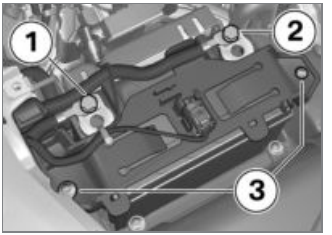
In the case of longer periods when the motorcycle is not being used, the battery must be recharged regularly. See the instructions for caring for your battery. Always fully recharge the battery before returning it to use.◀

Removing battery

- Make sure ground is level and firm and park motorcycle.

– with anti-theft alarm OE

- Switch off anti-theft alarm if necessary.◁
- Switch off ignition.
- Removing center fairing panel (➠ 115).



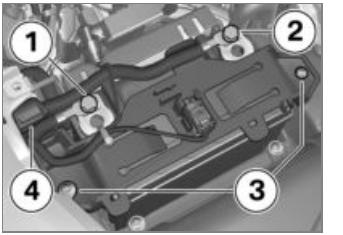
An incorrect disconnection sequence increase the risk of short-circuiting.
Always observe the proper sequence.◀

- Remove negative cable **1** first.
- Then remove positive cable **2**.
- Remove screws **3** on the left and right and take off battery holder forward from the battery.
- Lift battery up and out, using tilting movements if it is difficult to move.

Installing battery

If the motorcycle was disconnected from the battery for a longer time, the current date must be entered in the instrument cluster to ensure the proper operation of the service display.
Consult a certified workshop, preferably an authorized BMW Motorrad retailer, for setting of the date.◀

- Switch off ignition.
- Insert battery into battery compartment, with positive terminal on right in direction of travel.



- Lay on battery holder while ensuring correct routing of cables to position **4**.
- Install screws **3** on left and right.

An incorrect connection sequence increases the risk of short-circuiting.
Always observe the proper sequence.◀

- Install positive cable **2**.
- Install negative cable **1**.

- Installing center fairing panel (➠ 115).
- Setting clock (➠ 37).

Care

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Care products

BMW Motorrad recommends that you use cleaning and care products available at your authorized BMW Motorrad retailer. BMW Care Products have been materials tested, laboratory tested, and field tested and provide optimum care and protection for the materials used in your motorcycle.

The use of unsuitable cleaning and care products can damage motorcycle components.
For cleaning, do not use any solvents such as nitro-thinners, cold cleaning agents, fuel or similar, and do not use cleaning agents that contain alcohol.◀

Washing your motorcycle

BMW Motorrad recommends that you use BMW Insect Remover to soften and wash off insects and stubborn dirt from painted parts before washing the motorcycle.
To prevent stains, do not wash the motorcycle immediately after it has been exposed to bright sunlight and do not wash it in the sun.
Make sure that the motorcycle is washed frequently, especially during the winter months.
To remove road salt, clean the motorcycle with cold water immediately after every trip.

After washing the motorcycle, after driving through water or in the rain, braking can be delayed due to damp brake disks and brake pads.
Brake early until the brake disks and pads are dry or braked until dry.◀

Warm water intensifies the effect of salt.
Only use cold water to remove road salt.◀

The high water pressure of high-pressure cleaners (steam cleaners) can damage seals, the hydraulic brake system, the electrical system and the seat.
Do not use a steam jet or high-pressure cleaning equipment.◀

Cleaning sensitive vehicle parts

Plastics

If plastic parts are cleaned using unsuitable cleaning agents, the surfaces can be damaged.
Do not use cleaning agents that

contain alcohol, solvents or abrasives to clean plastic parts.
'Fly sponges' or sponges with hard surfaces can also lead to scratches.◀

Fairings
Clean body panels with water and BMW plastic care emulsion.

Windscreens and headlight lenses made of plastic
Clean off dirt and insects with a soft sponge and plenty of water.

Soften stubborn dirt and dead insects by covering the affected areas with a wet cloth.◀

Chrome

Especially in the case of road salt, carefully clean chrome parts with plenty of water and BMW auto shampoo. Use chrome polish for additional treatment.

Radiator

Clean the radiator regularly to prevent overheating of the engine due to inadequate cooling. For example, use a garden hose with low water pressure.

Cooling fins can be bent easily.
When cleaning the radiator, ensure that the fins are not bent.◀

Rubber

Treat rubber components with water or BMW rubber protection coating agent.

Using silicone sprays for the care of rubber seals can cause damage.
Do not use silicon sprays or other care products that contain silicon.◀

Paint care

Washing the motorcycle regularly will help counteract the long-term effects of substances that damage the paint, especially if your motorcycle is ridden in areas with high air pollution or natural sources of dirt, e.g. tree resin or pollen.
However, remove particularly aggressive materials immediately; otherwise changes in the paint or discoloration can occur. These include spilled fuel, oil, grease, brake fluid as well as bird droppings. BMW Car Polish or BMW Paint Cleaner are recommended for this.
Contamination of the paint finish is particularly easy to see after the motorcycle has been washed. Remove this type of soiling with cleaning naphtha or spirit on a clean cloth or cotton ball. BMW Motorrad recommends removing tar spots with BMW Tar Re-

mover. Then add a protective wax coating to the paint at these locations.

Protective wax coating

To preserve the finish of your motorcycle, BMW Motorrad recommends using BMW Car Wax or agents that contain carnauba or synthetic waxes.
A sure sign that the paint must be protected, is the fact that water no longer pearls up on it.

Storing motorcycle

- Clean the motorcycle.
- Removing battery (➠ 119).
- Spray the brake and clutch lever, the side stand pivot and, if necessary, the main stand pivot with a suitable lubricant.
- Coat bare metal and chrome-plated parts with an acid-free grease (e.g., Vaseline).
- Park motorcycle in a dry room, raising it to remove weight from both wheels.

Returning motorcycle to use

- Remove the protective wax coating.
- Cleaning the motorcycle.
- Install a charged battery.
- Before starting: Observe checklist.

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Troubleshooting chart

Engine does not start at all or is very difficult to start

Possible cause	Remedy
Emergency-off switch (kill switch)	Emergency-off switch (kill switch) in normal operating position.
Side stand extended and gear engaged	Retract side stand.
Gear engaged and clutch not operated.	Place transmission in neutral or disengage clutch.
No fuel in tank	Refueling (➠ 65).
Battery drained	Charging connected battery (➠ 118).

Threaded fasteners

Front wheel	Value	Valid
Brake caliper on telescopic forks		
M10 x 40	28 lb/ft (38 Nm)	
Pinch bolt of quick-release axle		
M8 x 25	**Tighten alternatively**	
	14 lb/ft (19 Nm)	
Front quick-release axle in axle mount		
M14 x 1.5	22 lb/ft (30 Nm)	

Rear wheel	Value	Valid
Locknut of drive-chain tensioning screw		
M8	14 lb/ft (19 Nm)	
Rear-wheel quick-release axle in swinging arm		
M16 x 1.5	74 lb/ft (100 Nm)	

Mirror arm	Value	Valid
Locknut (mirror) on clamping piece		
M14 x 1	15 lb/ft (20 Nm)	
Clamping piece (mirror) on clamping block		
M10	22 lb/ft (30 Nm)	

Engine

Engine design	Two-cylinder, four-stroke engine, DOHC control, 4 valves actuated by trailing valve levers, liquid cooling for cylinders and cylinder head, integrated coolant pump, 6-speed manual transmission and dry-sump lubrication
Displacement	798 cc (798 cm^3)
Cylinder bore	3.2 in (82 mm)
Piston stroke	3 in (75.6 mm)
Compression ratio	12:1
Rated output	86 hp (63 kW), at engine speed: 7500 min^{-1}
– with regular unleaded gasoline (RON 91) OE	83 hp (61 kW), at engine speed: 7500 min^{-1}
Torque	61 lb/ft (83 Nm), at engine speed: 5750 min^{-1}
– with regular unleaded gasoline (RON 91) OE	60 lb/ft (81 Nm), at engine speed: 5750 min^{-1}
Maximum engine speed	max 9000 min^{-1}
Idle speed	1250^{+50} min^{-1}

Fuel

Recommended fuel quality	Super unleaded (max. 10 % of ethanol) (E10) 89 AKI (95 ROZ/RON) 89 AKI
– with regular unleaded gasoline (RON 91)[OE]	Regular unleaded (minor restrictions with regard to power and fuel consumption) 87 AKI (91 ROZ/RON) 87 AKI
Usable fuel quantity	Approx. 4.2 gal (Approx. 16 l)
Reserve fuel quantity	min 2.9 quarts (min 2.7 l)

BMW recommends BP fuel

Engine oil

Engine oil, capacity	3.1 quarts (2.9 l), with filter change
Products recommended by BMW Motorrad	
BMW Motorrad High Performance Oil	SAE 15W-50, API SJ / JASO MA2
Oil additives	BMW Motorrad does not recommend using oil additives, as these can worsen the operation of the clutch. Ask your BMW Motorrad retailer for engine oils suitable for your motorcycle.

BMW recommends Castrol

Clutch

Clutch design	Multi-disk oil-bath clutch

Transmission

Transmission design	Claw-shifted 6-speed transmission integrated in engine housing
Transmission gear ratios	1.943 (35/68 teeth), Primary gear ratio 1:2.462 (13/32 teeth), 1st gear 1:1.750 (16/28 teeth), 2nd gear 1:1.381 (21/29 teeth), 3rd gear 1:1.174 (23/27 teeth), 4th gear 1:1.042 (24/25 teeth), 5th gear 1:0.960 (25/24 teeth), 6th gear

Rear-wheel drive

Type of final drive	Chain drive
Type of rear suspension	Two-arm cast aluminum swinging arm
Number of teeth of rear-wheel drive (Pinion/ sprocket)	16/42

Running gear

Front wheel	
Type of front suspension	Upside-down forks
Spring travel, front	9.1 in (230 mm), On wheel
– with lowering OE	7.5 in (190 mm), On wheel
Rear wheel	
Type of rear suspension	Two-arm cast aluminum swinging arm
Type of rear suspension	Directly articulated central spring strut with adjustable rebound-stage damping/spring preload
– with ESA OE	Directly articulated central spring strut with adjustable spring preload/electrically adjustable rebound-stage damping
Spring travel at rear wheel	8.5 in (215 mm), On wheel
– with lowering OE	7.5 in (190 mm), On wheel

Brakes

Front wheel	
Type of front brake	Hydraulically operated twin disk brake with 2-piston floating calipers and floating brake disks
Brake-pad material, front	Sintered metal
Rear wheel	
Type of rear brake	Hydraulic disk brake with 1-piston floating caliper and fixed brake disk
Brake-pad material, rear	Organic

Wheels and tires

Recommended tire combinations	You can obtain an overview of the current tire approvals from your authorized BMW Motorrad retailer or on the Internet at www.bmw-motorrad.com.
Front wheel	
Front wheel design	Spoked wheel, MT H2
Front-wheel rim size	2.15" x 21"
Front tire designation	90/90 - 21

Rear wheel	
Rear wheel design	Spoked wheel, MT H2
Rear-wheel rim size	4.25" x 17"
Rear tire designation	150/70 - 17
Tire inflation pressure	
Tire pressure, front	31.9 psi (2.2 bar), Single rider, with cold tires 34.8 psi (2.4 bar), Driver with passenger and/or load, with cold tire
Tire pressure, rear	34.8 psi (2.4 bar), Single rider, with cold tires 40.6 psi (2.8 bar), Driver with passenger and/or load, with cold tire

Electrical system

Electrical rating of onboard sockets	5 A
Fuses	All electrical circuits are electronically protected. If an electronic fuse trips and de-energizes a circuit, the circuit is active as soon as the ignition is switched on after the fault has been rectified.
Battery	
Battery design	AGM (Absorptive Glass Mat) battery.
Battery voltage	12 V
Battery capacity	12 Ah
Spark plugs	
Spark plugs, manufacturer and designation	NGK DCPR 8 E
Electrode gap of spark plug	0.03...0.04 in (0.8...0.9 mm), New
Bulbs	
Bulb for high-beam headlight	H7 / 12 V / 55 W
Bulbs for low-beam headlight	H7 / 12 V / 55 W
Bulb for parking light	W5W / 12 V / 5 W
Bulb for taillight/brake light	LED / 12 V

Maximum number of defective LEDs in taillight	6, Brake / taillight
Bulb for license-plate light	W5W / 12 V / 5 W
Bulbs for flashing turn indicators, front	R10W / 12 V / 10 W
Bulbs for flashing turn indicators, rear	R10W / 12 V / 10 W

Frame

Frame design	Lattice-tube frame
Location of type plate	Top front steering head
Location of vehicle identification number	Right steering head

Dimensions

Motorcycle length	90.6 in (2300 mm), across front wheel to license-plate carrier
Motorcycle height	53 in (1345 mm), across windshield, without driver, at DIN unladen weight
– with lowering[OE]	51.8 in (1315 mm), across windshield, without driver, at DIN unladen weight
Motorcycle width	35 in (890 mm), across handlebars, without mirrors

Driver's seat height	34.6 in (880 mm), without driver at unladen weight
– with comfort seat OE	35.2 in (895 mm), without driver at unladen weight
– with low dual seat OE	33.5 in (850 mm), without driver at unladen weight
– with lowering OE	32.3 in (820 mm), without driver at unladen weight
Rider's inside-leg arc, heel to heel	76 in (1930 mm), without driver at unladen weight
– with low dual seat OE	74 in (1880 mm), without driver at unladen weight
– with comfort seat OE	77.2 in (1960 mm), without driver at unladen weight
– with lowering OE	70.5 in (1790 mm), without driver at unladen weight

Weights

Unladen weight	472 lbs (214 kg), DIN unladen weight, ready for road, 90 % full tank of gas, without OE
Permissible gross weight	979 lbs (444 kg)
Maximum payload	507 lbs (230 kg)

Riding specifications

Top speed	>124 mph (>200 km/h)

Service

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Reporting safety defects

If you believe that your vehicle has a defect which could cause a crash or could cause injury or death, you should immediately inform the National Highway Traffic Safety Administration (NHTSA) in addition to notifying BMW of North America, LLC.

If NHTSA receives similar complaints, it may open an investigation, and if it finds that a safety defect exists in a group of vehicles, it may order a recall and remedy campaign. However, NHTSA cannot become involved in individual problems between you, your dealer, or BMW of North America, LLC.

To contact NHTSA, you may call the Vehicle Safety Hotline toll-free at 1-888-327-4236 (TTY: 1-800-424-9153); go to http://www.safercar.gov; or write to: Administrator, NHTSA, 400 Seventh Street, SW., Washington, DC 20590. You can also obtain other information about motor vehicle safety from http://www.safercar.gov.

BMW Motorrad Service

With its worldwide service network, BMW Motorrad can attend to you and your motorcycle in over 100 countries around the globe. BMW Motorrad retailers have the technical information and expertise needed to conduct reliable service and repairs covering every aspect of your BMW. You can find the nearest BMW Motorrad retailer by visiting our Internet site at "www.bmw-motorrad.com".

If this maintenance and repair work is performed inexpertly, there is a danger of damage and associated safety risks. BMW Motorrad recommends having corresponding work on your motorcycle carried out by a specialized workshop, preferably by an authorized BMW Motorrad retailer.◀

To ensure that your BMW consistently remains in optimal condition BMW Motorrad urges you to observe the recommended service intervals.
Have all maintenance and repair work confirmed in the "Service" chapter in this manual. For generous treatment of claims submitted after the warranty period has expired (goodwill), evidence of regular maintenance is essential.

You can obtain information on the contents of the BMW Services from your BMW Motorrad retailer.

BMW Motorrad Mobility Services

The BMW Motorrad Mobility Services furnish you and your new BMW motorcycle with extra security by offering a wide array of assistance services in the event of a breakdown (Mobile Service, breakdown assistance, vehicle recovery and retrieval, etc.).
Contact your authorized BMW Motorrad retailer for additional information on available mobility-maintenance services.

Maintenance work

BMW Pre-Delivery Check

The BMW pre-delivery check is carried out by your authorized BMW Motorrad retailer before it turns over the motorcycle to you.

BMW Running-in Check

The BMW running-in check must be carried out between 300 mls and 750 mls (500 km and 1200 km).

BMW Service

BMW Service is carried out once a year. The scope of the services performed may be dependent on the vehicle owner and the mileage driven. Your BMW Motorrad retailer confirms that the service has been performed and enters the date for the next service.

For drivers who drive long distances annually, it may be necessary to come in for service before the entered date. In this case a corresponding maximum odometer reading will also be entered in the confirmation of service. If this odometer reading is reached before the next service date, service must be performed sooner.

The service display in the multifunction display reminds you of the next service date approx. one month or 620 miles (1000 km) before the entered values.

Confirmation of maintenance work

BMW Pre-Delivery Check

Conducted

on_____

_____

Stamp, Signature

BMW Running-in Check

Conducted

on_____

Odometer reading_____

Next service
at the latest

on_____
or, if reached sooner,

Odometer reading_____

_____

Stamp, Signature

BMW Service
Conducted

on

Odometer reading

Next service
at the latest

on
or, if reached sooner,

Odometer reading

Stamp, Signature

BMW Service
Conducted

on

Odometer reading

Next service
at the latest

on
or, if reached sooner,

Odometer reading

Stamp, Signature

BMW Service
Conducted

on

Odometer reading

Next service
at the latest

on
or, if reached sooner,

Odometer reading

Stamp, Signature

BMW Service
Conducted

on_____

Odometer reading_____

Next service
at the latest

on_____
or, if reached sooner,

Odometer reading_____

Stamp, Signature

BMW Service
Conducted

on_____

Odometer reading_____

Next service
at the latest

on_____
or, if reached sooner,

Odometer reading_____

Stamp, Signature

BMW Service
Conducted

on_____

Odometer reading_____

Next service
at the latest

on_____
or, if reached sooner,

Odometer reading_____

Stamp, Signature

BMW Service
Conducted

on_____

Odometer reading_____

Next service
at the latest

on_____
or, if reached sooner,

Odometer reading_____

Stamp, Signature

BMW Service
Conducted

on_____

Odometer reading_____

Next service
at the latest

on_____
or, if reached sooner,

Odometer reading_____

Stamp, Signature

BMW Service
Conducted

on_____

Odometer reading_____

Next service
at the latest

on_____
or, if reached sooner,

Odometer reading_____

Stamp, Signature

BMW Service
Conducted

on_____

Odometer reading_____

Next service
at the latest

on_____
or, if reached sooner,

Odometer reading_____

Stamp, Signature

BMW Service
Conducted

on_____

Odometer reading_____

Next service
at the latest

on_____
or, if reached sooner,

Odometer reading_____

Stamp, Signature

BMW Service
Conducted

on_____

Odometer reading_____

Next service
at the latest

on_____
or, if reached sooner,

Odometer reading_____

Stamp, Signature

Confirmation of service

The table is intended as proof of maintenance and repair work, the installed optional accessories and any special campaign (recall) work carried out.

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Work carried out	Odometer reading	Date

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Details described or illustrated in this booklet may differ from the motorcycle's actual specification as purchased, the accessories fitted or the national-market specification. No claims will be entertained as a result of such discrepancies.
Dimensions, weights, fuel consumption and performance data are quoted to the customary tolerances.
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Important data for refueling

Fuel	
Recommended fuel quality	Super unleaded (max. 10 % of ethanol) (E10) 89 AKI (95 ROZ/RON) 89 AKI
– with regular unleaded gasoline (RON 91)[OE]	Regular unleaded (minor restrictions with regard to power and fuel consumption) 87 AKI (91 ROZ/RON) 87 AKI
Usable fuel quantity	Approx. 4.2 gal (Approx. 16 l)
Reserve fuel quantity	min 2.9 quarts (min 2.7 l)
Tire inflation pressure	
Tire pressure, front	31.9 psi (2.2 bar), Single rider, with cold tires 34.8 psi (2.4 bar), Driver with passenger and/or load, with cold tire
Tire pressure, rear	34.8 psi (2.4 bar), Single rider, with cold tires 40.6 psi (2.8 bar), Driver with passenger and/or load, with cold tire

BMW recommends Castrol

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